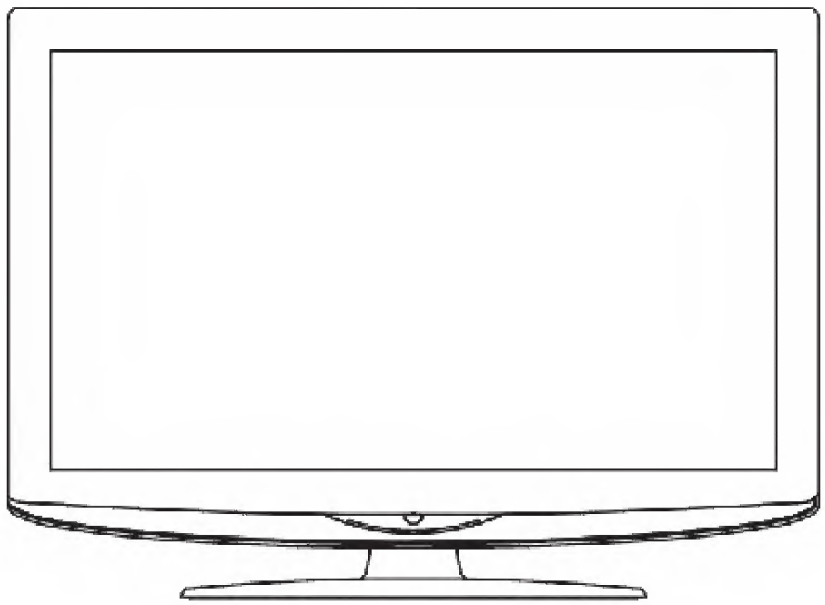


Acer AT1945 & AT1946
Service Guide

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Service Guide Version and Revision

Version	Date	Revision History	TPV Model Name
A00	Apr.-01-08	Initial release	E198M2NBWAZEN

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Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Remind you to do specific actions relevant to the accomplishment of procedures.

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Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office may have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Warning: (For FCC Certified Models)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
3. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibility of the user to correct such interference.

As ENERGY STAR® Partner our company has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Warning:

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerous high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

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Precautions

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable trolley, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a trolley or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, uses a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.

Special Notes On LCD TV Monitors

The following symptoms are normal with LCD TV monitor and do not indicate a problem.

Notes

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the Power Switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD TV screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD TV screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the Power Switch for hours.

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General Specifications

Model	AT1945/AT1946	A2245/AT2246	AT2645/AT2646	AT3245/AT3246
Panel spec				
Resolution (pixels)	1440 x 900	1680 x 1050	1366 x 768	
Brightness (tpe.)	300 nit		500 nit	
Contrast Ratio (tpe.)	1000 : 1		800 : 1	1500 : 1
Dynamic Contrast Ratio (tpe.)	4000 : 1		3200 : 1	6000 : 1
Display colour	16.7 M			
Viewing angle (tpe.)	H: 170° ; V:160°		H: 160° ; V:150°	H: 176° ; V:176°
Response (tpe.)	5 ms (Gray to Gray)		8 ms (Gray to Gray)	6.5 ms (Gray to Gray)
Power supply				
Input	100 to 240 V AC (50~60 Hz)			
Max. power consumption	50W	65W	110 W	160 W
Power saving	<1 W			
Mechanical				
Dimensions (W x H x D mm)	446.15 x 358.5 x 144.44	511.65 x 400.02 x 144.44	651.93 x 480.96 x 218.13	782.54 x 558.62 x 207.36
Weight (kg)	4.5	6	8.8	11.25
Weight (lbs.)	9.9	13.2	19.38	24.78
Gross weight (Kg)	6	7.5	11.4	13.97
Gross weight (lbs)	13.2	16.5	25.11	30.77
Wall-mounting holes	100mm x 100mm		200mm x 100mm	200mm x 200mm
Analog TV system				
Colour system	PAL, SECAM			
Sound system	B/G/D/K/I/L/L'			
Stereo system	NICAM/A2			
Subtitle	Teletext 1.5 (1000 pages)			

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Digital TV system			
Digital TV standard	DVB-T		
Sound system	ISO11172-3 layer1 & layer2 32KHz,44.1KHz,48KHz		
Stereo system	PCM / MPEG (Layer I & II) Stereo 32 / 44.1 / 48KHz		
Frequency	7/8 MHz		
Terminal			
Analog/ Digital Tuner In	Hybird		
SCART 1	CVBS(In/Out), RGB(In), Audio R/L		CVBS(In/Out), S-Video (In), RGB(In), Audio R/L
SCART 2	N/A		CVBS(In/Out), S-Video (In), Audio R/L
Component in	YPbPr, Audio (R/L)		
AV-in	CVBS, S Video, Audio (R/L)		
HDMI 1	Yes (HDMI 1.3)		
HDMI 2	Yes (HDMI 1.3)		
HDMI 3	N/A		Yes (HDMI 1.3)
PC D-sub in	Yes		
PC audio-in	Yes		
RCA Audio Out	N/A		Yes
SPDIF out	Yes (Coxial)		
Headphone out	Yes		
Service Port	Yes		
Resolution			
HDMI	480i/p, 576i/p, 720p, 1080i		
Audio system			
Speakers	3W + 3W	5W + 5 W	10W + 10W

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LCD TV Description

The LCD TV will contain a main board (include audio), an I/O board, a switching power board, a function keyboard (include an IR Board) and an Ear phone board. The main board and power board will house the flat panel to control logic I2C bus, DDC, brightness control logic for LCD panel, DC-DC conversion to supply the appropriate power to the whole board and transmitting TTL level signals into LCD Module to drive the LCD display circuit.
The inverter board will drive the five CCFLs (Cold Cathode Fluorescent Lamp).
The switching power board will provides the power ON/OFF to control the TV and control LED indicator for DPMS.
The function keyboard and Remote Control will provide the OSD control signal to the Main Board.

Precautions And Notices

1-1 Assembly Precaution

(1) Please do not press or scratch LCD panel surface with anything hard. And do not soil LCD panel surface by touching with bare hands (Polarize film, surface of LCD panel is easy to be flawed)
In the LCD panel, the gap between two glass plates is kept perfectly even to maintain display characteristic and reliability. If this panel is subject to hard pressing, the following occurs :
(a) Uniform color (b) Orientation of liquid crystal becomes disorder

(2) Please wipe out LCD panel surface with absorbent cotton or soft cloth in case of it being soiled.

(3) Please wipe out drops of adhesive like saliva and water in LCD panel surface immediately.
They might damage to cause panel surface variation and color change.

(4) Do not apply any strong mechanical shock to the LCD panel.

1-2 Operating Precaution

(1) Please be sure to unplug the power cord before remove the back-cover. (be sure the power is turn-off)

(2) Please do not change variable resistance settings in MAIN-BOARD; they are adjusted to the most suitable value. If they are changed, it might happen LUMINANCE does not satisfy the white balance spec.

(3) Please consider that LCD backlight takes longer time to become stable of radiation characteristic in low temperature than in room temperature.

(4) Please pay attention to displaying the same pattern for very long-time. Image might stick on LCD.

1-3 Storage Precaution

(1) When you store LCD for a long time, it is recommended to keep the temperature between -20℃ - 60℃ without the exposure of sunlight and to keep the humidity less than 85% RH.

(2) Please do not leave the LCD in the environment of high humidity and high temperature such as 60℃, 95%RH.

(3) Please do not operate the LCD in the environment of abnormal temperature, below 0℃.

1-4 High Voltage Warning

The high voltage was only generated by Power support part, if carelessly contacted the transformer on this module, can cause a serious shock.

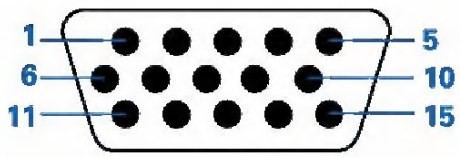
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D-SUB PIN Distribution

This procedure gives you instructions for installing and using the LCD TV display.

(1) Position the display on the desired operation and plug the power cord into a convenient AC outlet. Three-wire power cord must be shielded and is provided as a safety precaution as it connects the chassis and cabinet to the electrical conduct ground. If the AC outlet in your location does not have provisions for the grounded type plug, the installer should attach the proper adapter to ensure a safe ground potential.

(2) Connect the 15-pin color display shielded signal cable to your signal system device and lock both screws on the connector to ensure firm grounding. The connector information is as follow:



15 - Pin Color Display Signal Cable

Pin NO.	Description	Pin NO.	Description
1	Red video input	9	DDC +3.3V (or 5V)
2	Green video input /SOG	10	Logic ground
3	Blue video input	11	GND
4	GND	12	Serial data line (SDA)
5	GND– cable detect	13	H. Sync / H+V
6	Red video ground	14	V. Sync
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		

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Factory Preset Display Modes:

Analog RGB Signal Timing

Preset Mode					
Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	BW(MHz)
1	31.469	IBM VGA 3H	720x400	70.087	
2	31.469	IBM VGA 12H	640x480	59.94	
3	35	MACINTOSH	640x480	67	
4	37.861	VESA	640x480	72.809	
5	37.5	VESA	640x480	75	
7	35.156	VESA	800x600	56.25	
8	37.879	VESA	800x600	60.317	
9	48.077	VESA	800x600	72.188	
10	46.875	VESA	800x600	75	
12	49.7	MACINTOSH	832x624	75	
13	48.363	VESA	1024x768	60.004	
14	56.476	VESA	1024x768	70.069	
15	60.023	VESA	1024x768	75.029	
16		CVT 2.3MA	1280 x768	60	
17	60.289	CVT 2.3MA	1280 x768	75	
18	68.7	MACINTOSH	1152x870	75	
19	63.851	VESA	1152x864	70.012	
20	67.5	VESA	1152x864	75	
21	60	VESA	1280x960	60	
22	75	VESA	1280x960	75	
23	63.981	VESA	1280x1024	60.02	
24	79.976	VESA	1280x1024	75.025	
25	64	CVT	1400x1050	60	121.75
26	55.469	VESA-reduced blanking mode	1440x900	59.901	88.75
27	55.935	VESA	1440x900	59.887	106.5
28	70.635	VESA	1440x900	74.984	136.75
29	66.587	CVT 2.3MA-R	1920x1080	60	138.5

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LCD TV Panel Specification

M190A1-L0A is a 19" wide TFT Liquid Crystal Display module with 4 CCFL Backlight unit and 30 pins 2ch-LVDS interface. This module supports 1440 x 900 WXGA+ mode and can display 16.7M colors. The inverter module for Backlight is not built in.

Panel Features

-Super wide viewing angle
- High contrast ratio
- Fast response time
- High color saturation (EBU Like Specifications)
- WXGA+ (1440 x 900 pixels) resolution
- DE (Data Enable) only mode
- LVDS (Low Voltage Differential Signaling) interface
- RoHS Compliance

General Specifications

Item	Specification	Unit
Diagonal Size	481.4 (18.95" diagonal)	mm
Active Area	408.24 (H) x 255.15 (V)	mm
Bezel Opening Area	412.24 (H) x 259.15 (V)	mm
Driver Element	a-si TFT active matrix	-
Pixel Number	1440 x R.G.B. x 900	pixel
Pixel Pitch	0.2835 (H) x 0.2835 (V)	mm
Pixel Arrangement	RGB vertical stripe	-
Display Colors	16.7M	color
Transmissive Mode	Normally White	-
Color Saturation	72%NTSC (typ.)	
Surface Treatment	Hard coating (3H), Anti-glare (Haze 25)	-

Mechanical Specification

Item		Min.	Typ.	Max.	Unit
Module Size	Horizontal(H)	427.5	428	428.5	mm
	Vertical(V)	277.5	278	278.5	mm
	Depth(D)	-	17.1	17.6	mm
Weight		-	1835	1880	g

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Optical Specifications

Test Conditions

Item	Symbol	Value	Unit
Ambient Temperature	Ta	25±2	°C
Ambient Humidity	Ha	50±10	%RH
Supply Voltage	V_{CC}	5.0	V
Input Signal	According to typical value in "3. ELECTRICAL CHARACTERISTICS"		
Lamp Current	I_L	6.0	mA
Inverter Operating Frequency	F_L	55	KHz
Inverter	Darfon VK.13165.101		

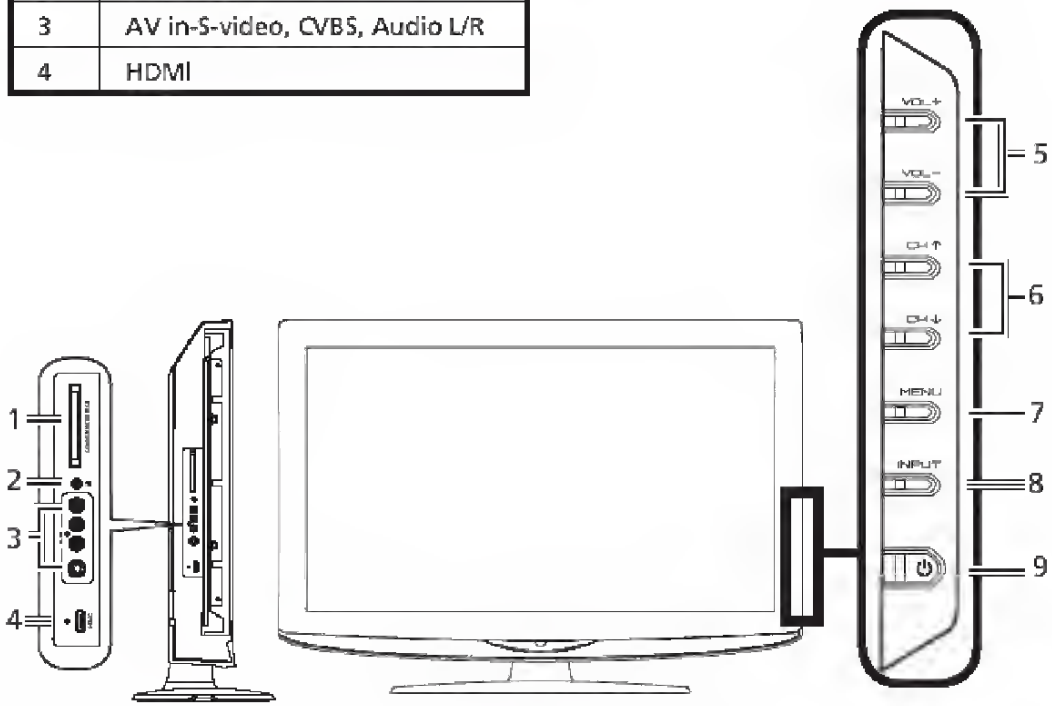
Optical Specifications

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Color Chromaticity	Red	Rx	θ_x=0°, θ_Y =0° CS-1000T	Typ – 0.03	0.647	Typ + 0.03	
		Ry			0.334		
	Green	Gx			0.284		
		Gy			0.607		
	Blue	Bx			0.151		
		By			0.071		
	White	Wx			0.313		
		Wy			0.329		
Center Luminance of White		L_C		230	300	---	cd/m^2
Contrast Ratio		CR		630	1000	---	-
Response Time		T_R	θ_x=0°, θ_Y =0°	---	1.5	6.5	ms
		T_F		---	3.5	8.5	ms
White Variation		δW	θ_x=0°, θ_Y =0°	---	1.3	1.5	-
Viewing Angle	Horizontal	θ_x+	CR ≧ 10	75	85	---	Deg.
		θ_x-		75	85	---	
	Vertical	θ_Y+		70	80	---	
		θ_Y-		70	80	---	

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Front panel controls

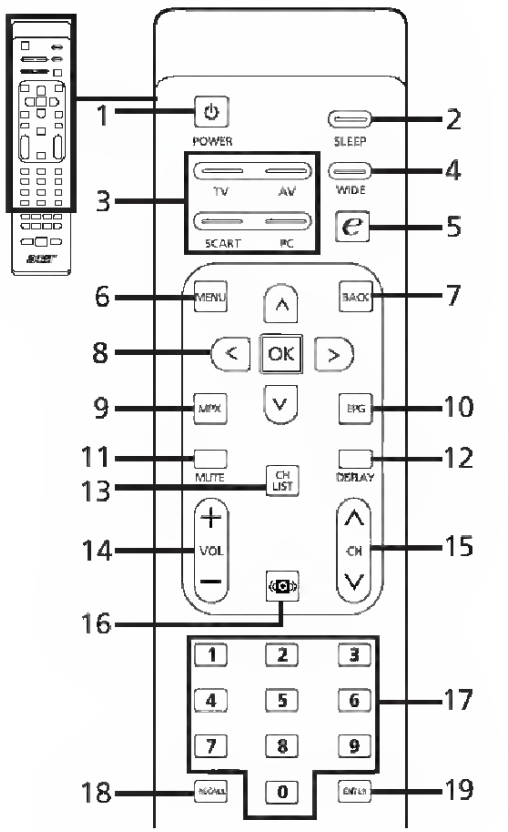
Front panel view	
1	Common interface
2	Earphone
3	AV in-S-video, CVBS, Audio L/R
4	HDMI



5	VOL+	Volume up	When the OSD is on, functions the same as the Right arrow.
	VOL−	Volume down	When the OSD is on, functions the same as the Left arrow.
6	CH↑	Channel up	When the OSD is on, functions the same as the Up arrow.
	CH↓	Channel down	When the OSD is on, functions the same as the Down arrow.
7	MENU	Menu key	Turns the OSD menu ON and OFF.
8	INPUT	Input key	Press to change input source. When the OSD is on, press this button to confirm selection.
9	⏻	Power On/ Off	Turns the power ON and OFF.

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Using the Remote Control



1 POWER
Press to turn your TV on/off.

2 SLEEP
Press to set a time period after which the TV will switch itself to standby (5, 30, 45, 60, 90 or 20 minutes).

3 Input buttons (TV/AV/SCART/PC)
Press to select correct input mode.

4 WIDE
Press to toggle scaling mode between Wide detect, 4:3, 6:9, Full*, Panorama and Letterbox , 2, 3 modes.

5 e (Empowering Technology)
Press to activate Acer Empowering Technology. See page 25.

6 MENU
Press to open or close the Menu.

7 Back
Press to back to previous Menu.

8 Directional keys/OK

9 MPX
Press to select the audio type, displayed in the top right-hand corner(mono, stereo, bilingual).

10 EPG
Press to launch Electronic Programme Guide (EPG) mode
(Digital TV mode only).

11 MUTE
Press to toggle audio on and off.

12 DISPLAY
Press to display or change input/ channel information (dependent on input/source type).

13 CH LIST
Press to launch the channel list. See page 40.

14 VOL (+/-)
Press to increase or decrease the volume.

15 CH (up/down)
Press to sequentially select the TV channel.

16 Sound
Press to turn audio mode to Surround mode.

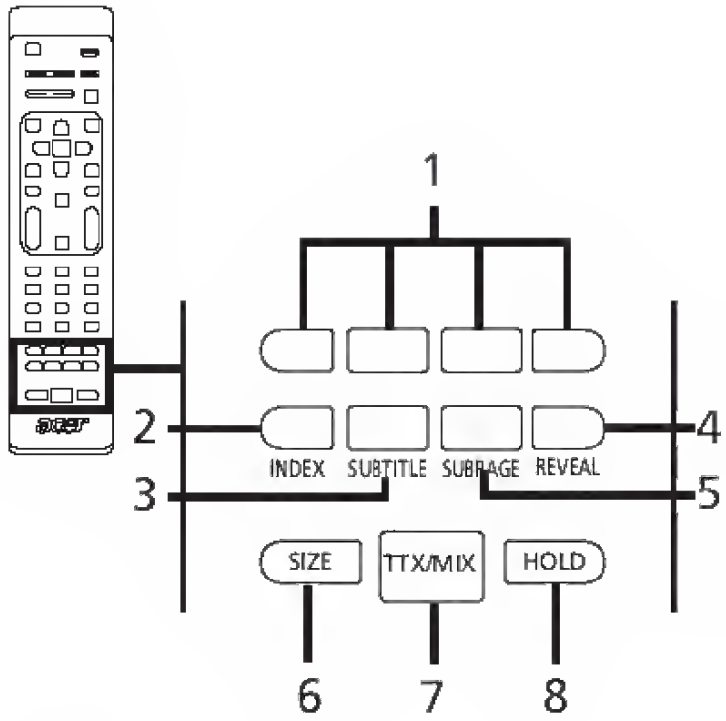
17 Number keys.

18 RECALL
Press to return to the previous channel.

19 ENTER
Press to confirm channel number selection.

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Teletext



1 Color buttons (R/G/Y/B)
Operates corresponding button on the teletext page.

2 INDEX
Press to go to the index page.

3 SUBTITLE
Press to view subtitles on the screen.

4 REVEAL
Press to reveal hidden telext information.

5 SUBPAGE
Press to access the teletext's subpages directly.

6 SIZE
Press once to zoom teletext page to 2X.
Press again to resume.

7 TTX/MIX (TELETEXT/MIX)
Press to switch from TV/AV to Teletext mode.
Press to overlay teletext page on the TV image.

8 HOLD
Press to pause the current teletext page in multi-page viewing mode.

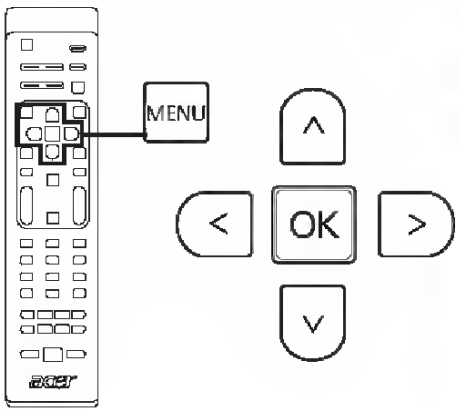
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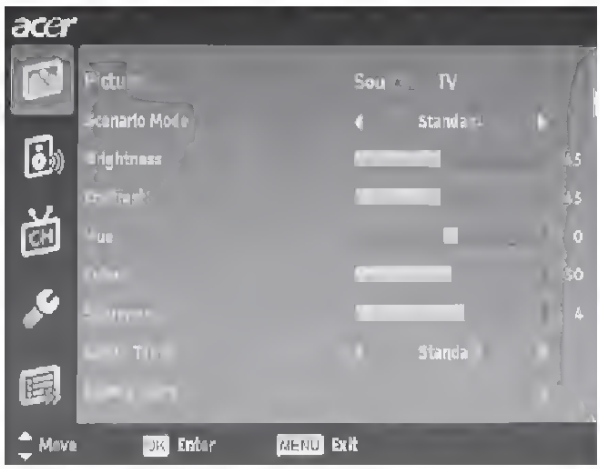
Using the OSD Menus

Many of the advanced settings and adjustments are available through using the OSD (onscreen display) menus, as shown in the example screenshot below.

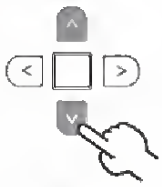
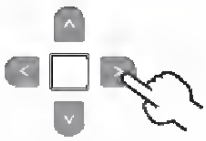
Basic operations required to navigate these menus (Picture, Audio, Channel management, Settings and Advance) are described in this section.

Navigating the OSD with the remote control





You can also interact with these menus using the right panel controls. Please see "Front panel view" on page 8 for details.

There are five main OSD menus. These are: Picture, Audio, Channel management, Settings and Advance. Use the following method to navigate these menus.		
1		Press the **MENU** button on the remote control or the **MENU** button on the control panel.
2		Select your desired menu by using the up and down directional **keys** to switch between the five menus.
3		Use the **directional keys** to interact with the menu. The up / down directions will scroll through the menu options, while left/right will adjust the different settings (for example, in the Picture menu, settings such as brightness, contrast, etc.). Press **MENU** to exit.

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Adjusting the OSD settings

The OSD can be used for adjusting the settings of your LCD TV.

Press the MENU key to open the OSD. You can use the OSD to adjust the picture quality, audio settings, channel settings and general settings. For advanced settings, please refer to following page:

Adjusting the picture quality



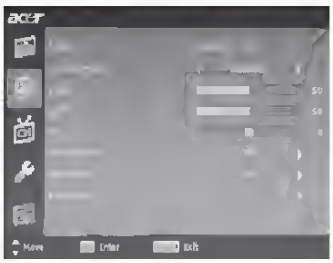
1 Press the **MENU** key to bring up the OSD.

2 Using the directional keys, select **Picture** from the OSD. Then navigate to the picture element you wish to adjust.

3 Use the left or right keys to adjust the sliding scales.

4 The **Picture** menu can be used to adjust the current **Scenario Mode, Brightness, Contrast, Hue, Colour, Sharpness** and other image-related qualities.

Adjusting the audio settings



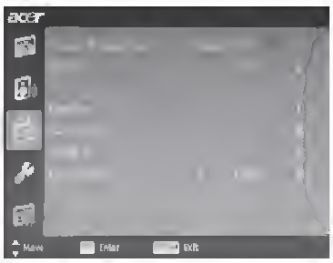
1 Press the **MENU** key to bring up the OSD.

2 Using the directional keys, select **Audio** from the onscreen display. Then navigate to the feature you wish to adjust.

3 Use the left or right keys to adjust the sliding scale. Press **OK** to save.

4 The **Audio** menu can also be used to adjust the the current **Scenario Mode, Treble, Bass, Balance, Steady Sound, Sound Effect** and other important sound-related settings.

Adjusting the channel management



1 Press the **MENU** key to bring up the OSD.

2 Using the directional keys, select **Channel Management** from the OSD.

3 Use the directional keys to navigate the menus.

4 The **Channel management** menu can be used to adjust **Country, Time Zone, Auto Scan, Manual Scan, Channel Edit** and other important channel-related settings.

Adjusting the settings



1 Press the **MENU** key to bring up the OSD.

2 Using the directional keys, select **Setting** from the OSD. Then navigate to the feature you wish to adjust.

3 The **Settings** menu can be used to adjust the screen **Wide Mode, Menu Language, Sleep, Empowering Key Settings** and other important settings.

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Adjusting the advance settings



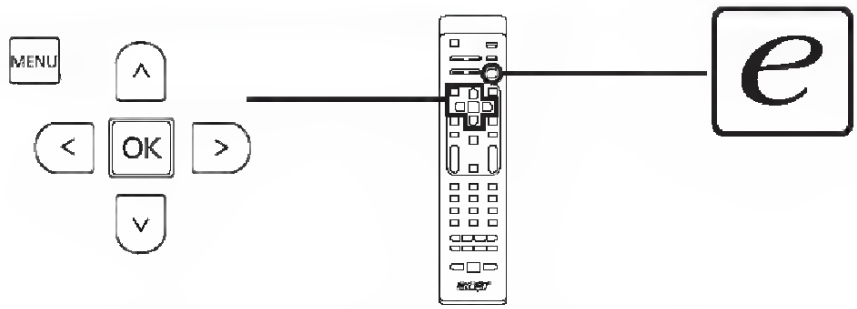
1 Press the **MENU** key to bring up the OSD.

2 Using the directional keys, select **Advance** from the OSD. Then navigate to the feature you wish to adjust.

3 The **Advance** menu can be used to adjust the **Parental Contal, Advanced Picture Adjust, SCART,** Preferred **Subtitle** and other important settings.

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Empowering Technology

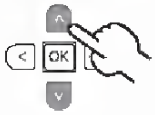
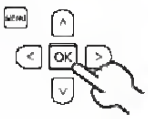


The Empowering Key opens up the Acer Empowering Technology functions.

Empowering Technology has choice is between Scenario mode and Favourite channel.

Set-up Empowering mode

To change your Empowering Key's default setting:

Set-up Empowering mode			
1		Press the **MENU** key on the remote control to bring up the OSD.	
2		Use the **directional keys** to navigate and select **Setting**.	
3			Highlight **Empowering key settings**. Then, select the setting you wish to use and press **OK** to confirm.
4		Press **MENU** to exit.	

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Default setting in different Empowering mode

Scenario mode in TV

Scenario mode has five preset viewing modes designed to give you the best picture quality when watching a particular kind of programme. There are five pre-defined audio and video settings for optimal enjoyment of the following scenarios: Standard TV, Movie, Game, Sport, Concert, User.



Pressing the **Empowering Key** will toggle between the different modes.

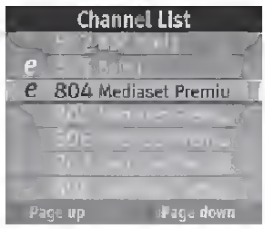
Mode	Information
Standard	Standard mode allows you to watch your favourite channels with sharp, brilliant imagery via adaptive brightness and contrast adjustments, and listen to clear-sounding audio.
Movie	For comfortably enjoying movies at home, Movie mode displays dim scenes in clear detail; compensates for colour; and smoothly presents motion images. This is accomplished through optimal Gamma correction plus saturation, brightness and contrast adjustments. Movie mode makes the most of high-definition movie soundtracks.
Game	Game mode carefully details the exquisite graphics of modern video games, providing lifelike entertainment while protecting your eyesight by adjusting brightness and contrast. What's more, Game mode provides a heightened audio experience.
Sport	Sport mode is suited for outdoor sports programmes, with accurate background depth and clear gradation between the bright, outdoor playing field and darker auditoriums. Sports mode also brilliantly enhances colours and presents swiftly moving pictures without residual images. All of this is achieved via specific Gamma corrections and saturation adjustments. Precise audio can be heard.
Concert	Concert mode places you in a virtual concert hall, opera house or other dim environment by means of adaptive brightness and contrast adjustments. Concert mode accentuates symphonic harmonies and the tenor audio range.
User	User mode allows you to save your favourite video and audio settings.

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Favourite channel mode in TV mode (default setting)

Favourite channel allows you to store your favourite TV channels and flick between them at the touch of a button.

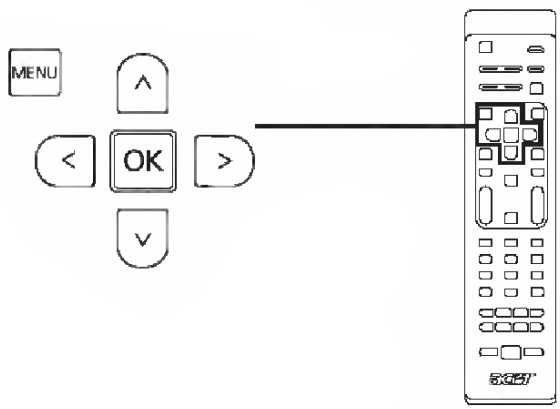
To set Favourite channel as the default, follow the steps described on this page.

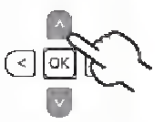
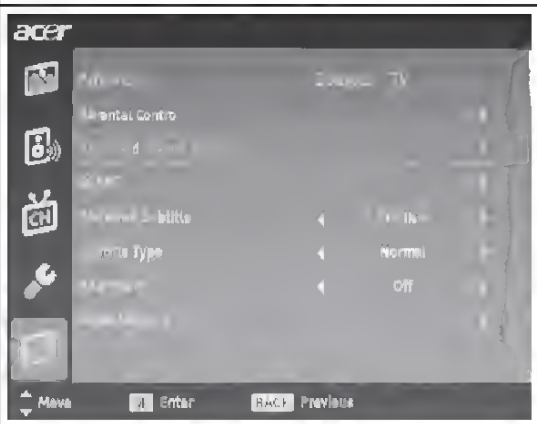
Storing favourite channels		
1		Press the **CH LIST** key on the remote control. This will bring up the channel list menu.
2		The current channel will be highlighted and press the **Empowering Key** to storing favourite channel.
3		Press the **CH LIST** key on the remote control to exit.
Viewing your favourite channels		
		On the remote control, if you press the **Empowering Key**, the TV will jump between the stored TV channels sequentially according to your list of favourites.

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Advanced features

Advanced Picture Adjustment



Advanced Picture Adjustment			
1		Press the **Menu** key from the remote control hand set, to invoke the OSD (On Screen Display).	
2			Using the **directional keys** to navigate, select **Advance** from the OSD. Scroll to '**Advanced Picture Adjust**' sub-menu to adjust picture settings.
3			Using the **directional keys**, to navigate through '**Noise Reduction**', '**Back Light Control**' or '**ACM**'.

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4		* **Noise Reduction:** This function filters noise from a signal. You can set to **Off, Low, Medium** or **High** depending on your preference. * **Back Light Control:** This setting adjusts the picture displays 'backlight / brightness'. Use the **Left** or **Right direction keys** to adjust this feature. * **ACM:** This function (Adaptive Contrast Management) automatically adjusts picture contrast, depending on the brightness of the video content. You can turn this feature either to **'on'** or **'off'**.
5		Press **MENU** to exit.

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Logo

When the monitor is power on, the LOGO will be showed in the center, and disappear slowly.



How To Optimize The DOS-Mode

Plug And Play

Plug & Play DDC2B Feature

This monitor is equipped with VESA DDC2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities.

The DDC2B is a bi-directional data channel based on the I²C protocol. The host can request EDID information over the DDC2B channel.

This monitor will appear to be non-functional if there is no video input signal. In order for this monitor to operate properly, there must be a video input signal.

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association (VESA) and/or the United States Environmental Protection Agency (EPA) and The Swedish Confederation Employees (NUTEK). This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signals this monitor, following a time-out period, will automatically switch to an OFF mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. The display is restored by pressing a key on the keyboard, or clicking the mouse.

Using The Right Power Cord

The accessory power cord for the Northern American region is the wallet plug with NEMA 5-15 style and is UL listed and CSA labeled. The voltage rating for the power cord shall be 125 volts AC.

Supplied with units intended for connection to power outlet of personal computer: Please use a cord set consisting of a minimum No. 18 AWG, type SJT or SVT three conductors flexible cord. One end terminates with a grounding type attachment plug, rated 10A, 250V, CEE-22 male configuration. The other end terminates with a molded-on type connector body, rated 10A, 250V, having standard CEE-22 female configuration.

Please note that power supply cord needs to use VDE 0602, 0625, 0821 approval power cord in European counties.

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This chapter contains step-by-step procedures on how to disassemble the monitor for maintenance.

Disassembly Procedure

Disassemble The Base

1. Put the monitor on a clean soft cloth with panel facing to the table. (Fig 1)



(Fig 1)

2. Remove four screws to remove stand base. (Fig 2-3)



(Fig 2)



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(Fig 3)

Disassemble the back cover

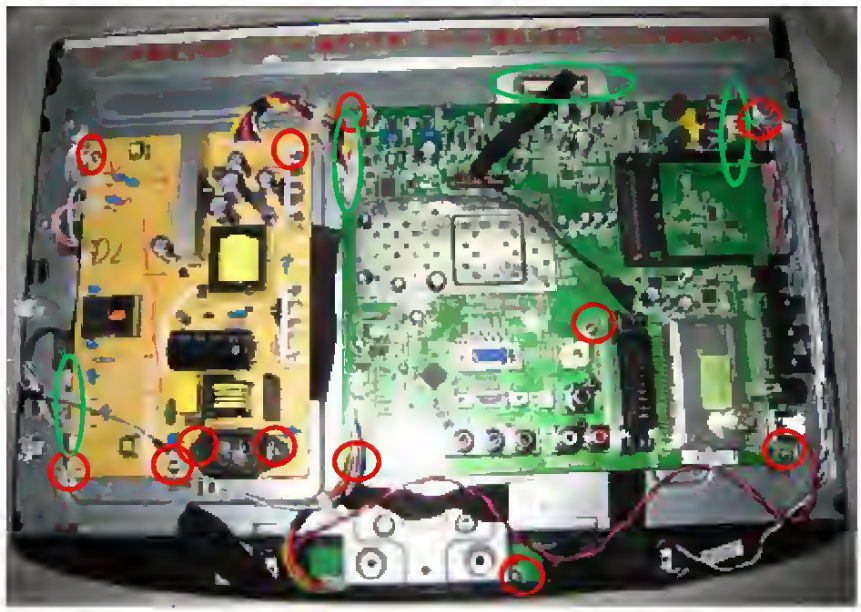
1. Remove four screws to remove back cover. (Fig 4)



(Fig 4)

Remove the main board, power Board, IR board and key board.

1. Remove the rear cover, then the main board ,power board, ir board and key board show as below. (Fig 5-6)
2. Remove the twelve screws marked in red to remove power board, IR board and main board. (Fig 9)
3. Remove all the connecting wires marked in green for these boards.



(Fig 5)

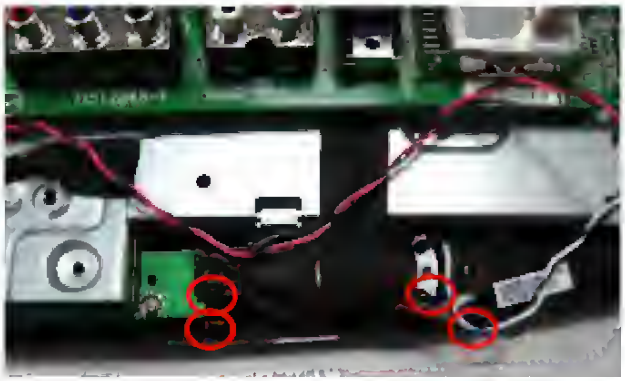
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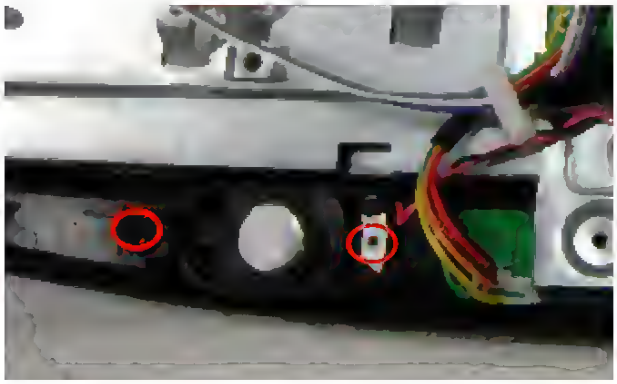
(Fig 6)

Disassemble the speaker.

Remove the four screws marked in red to remove the speakers.



(Fig 7)



(Fig 8)

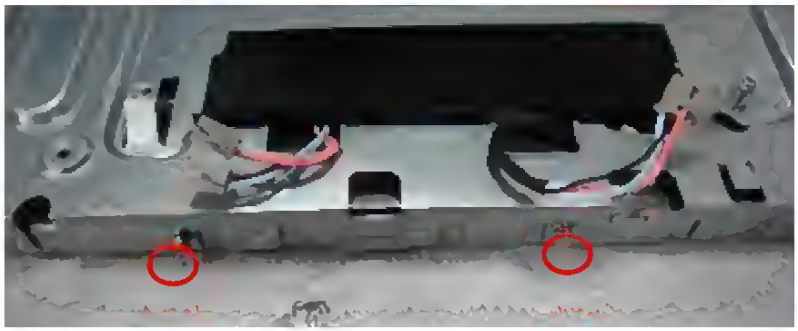
Remove the main frame

Remove the four screws marked in red to remove the main frame.

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(Fig 9)



(Fig 10)

Disassemble the IR board



(Fig 11)

Disassemble the front panel

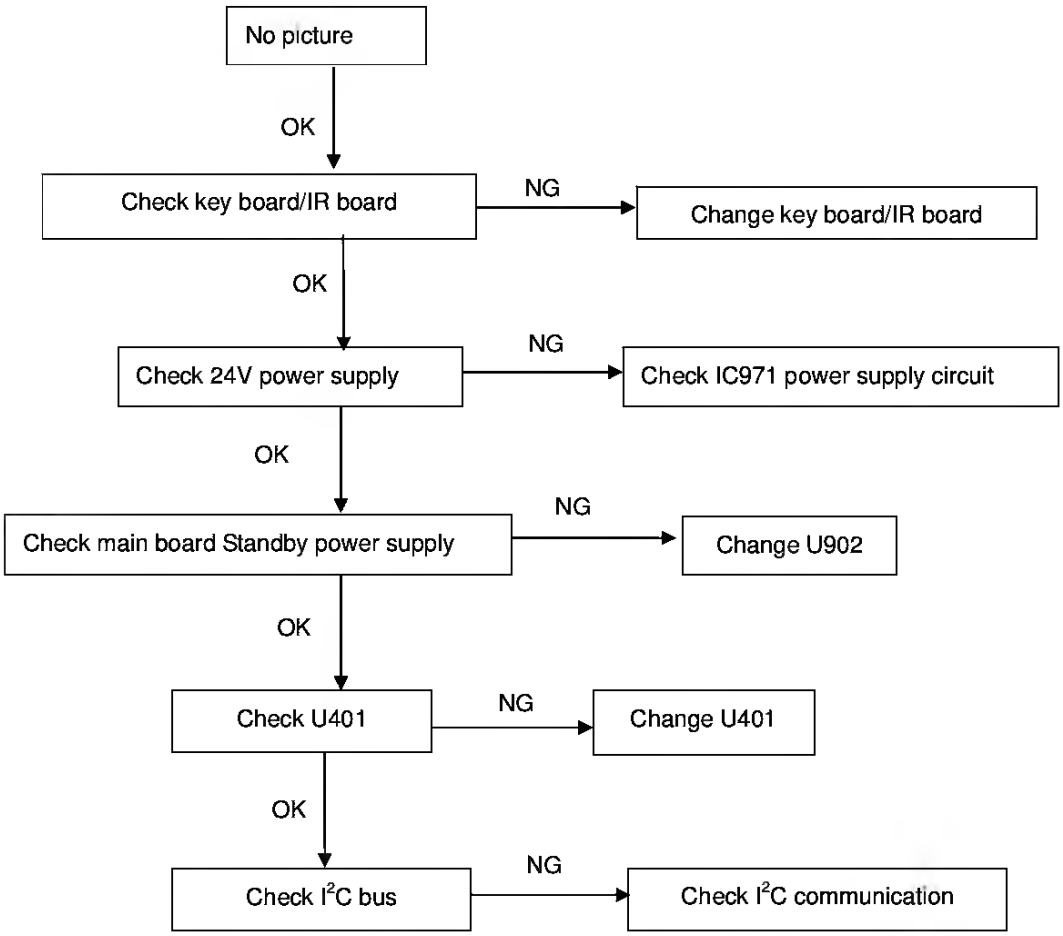
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(Fig 12)

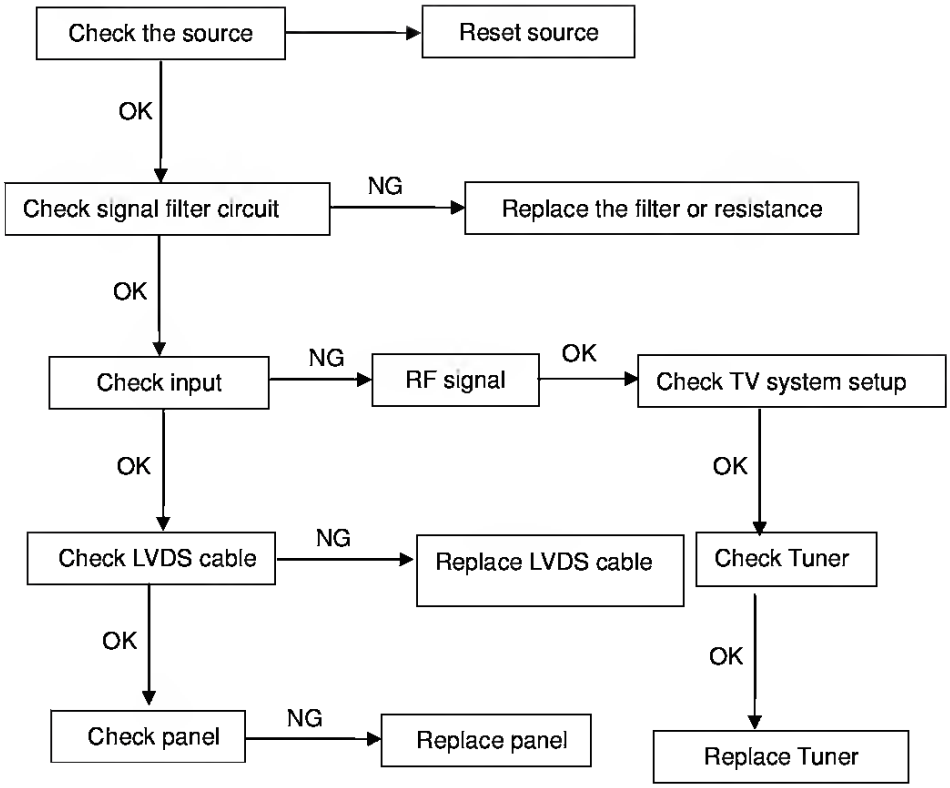
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No picture (LED orange)



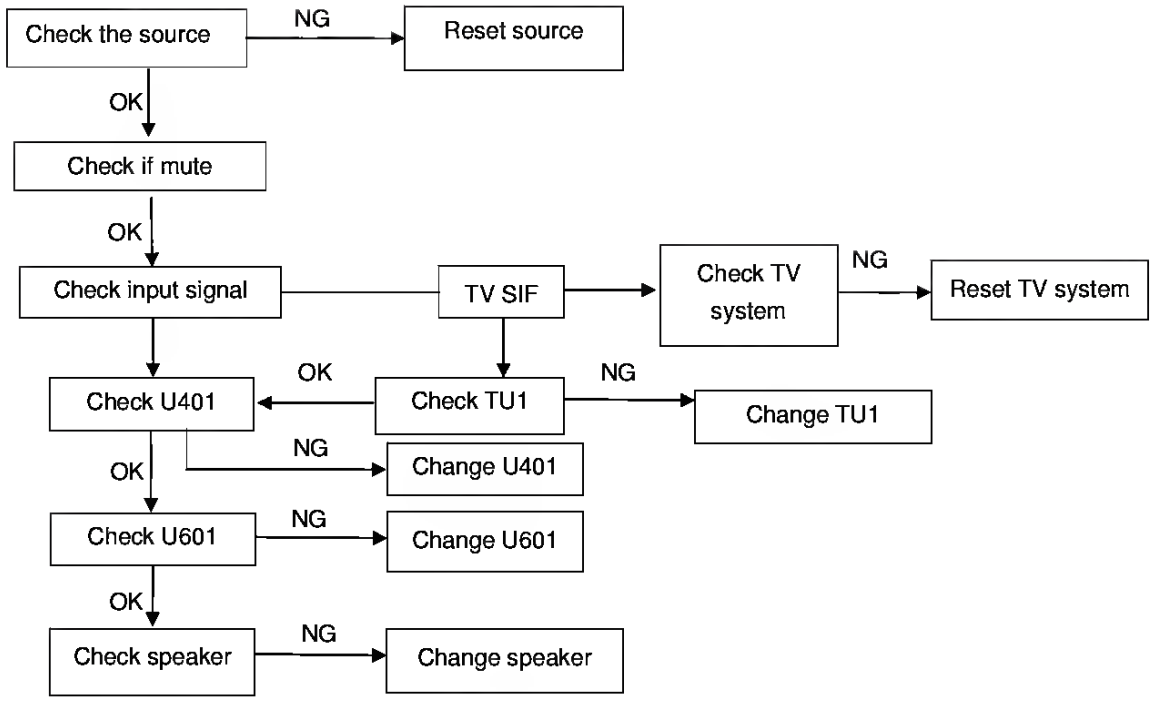
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Abnormal display



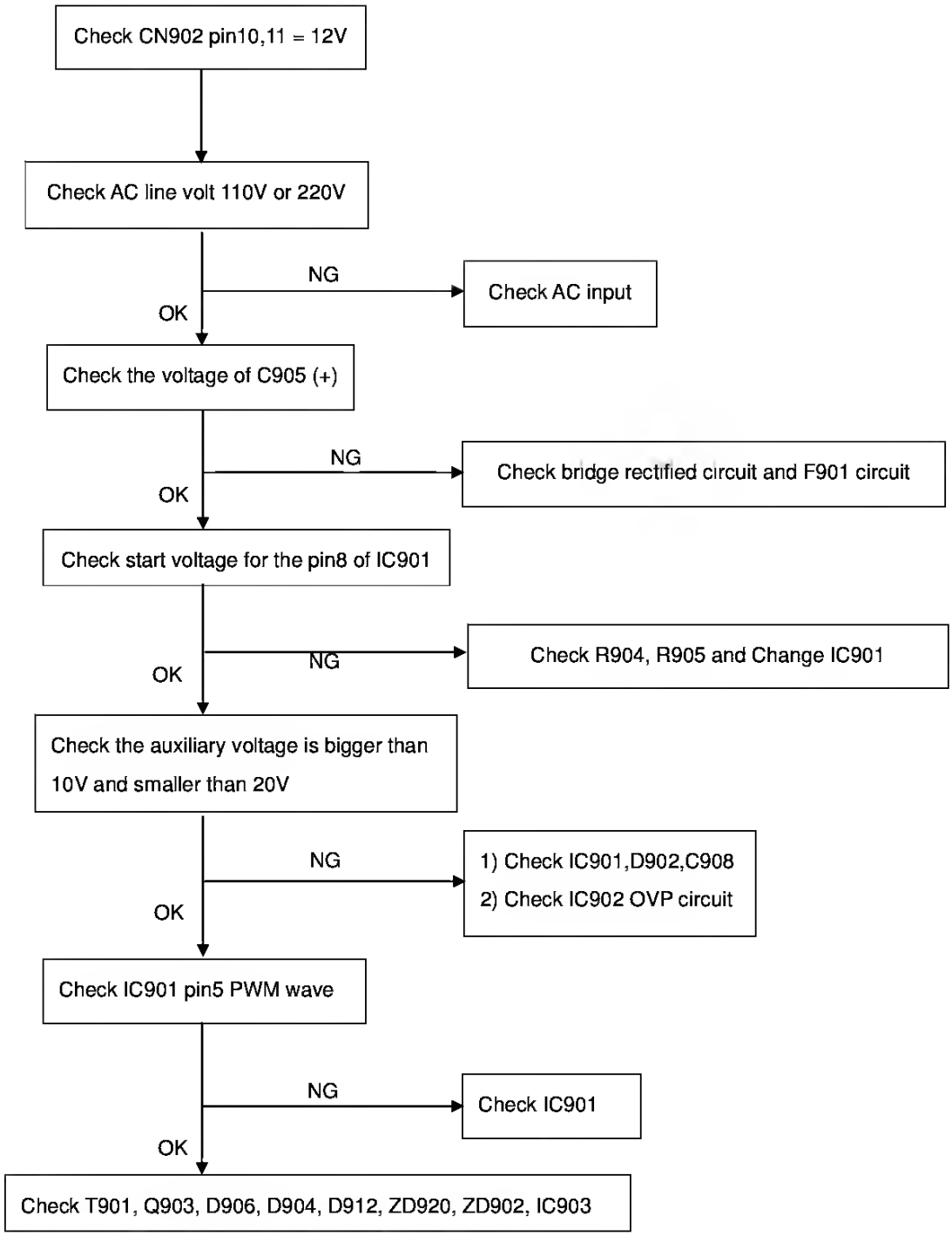
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No sound



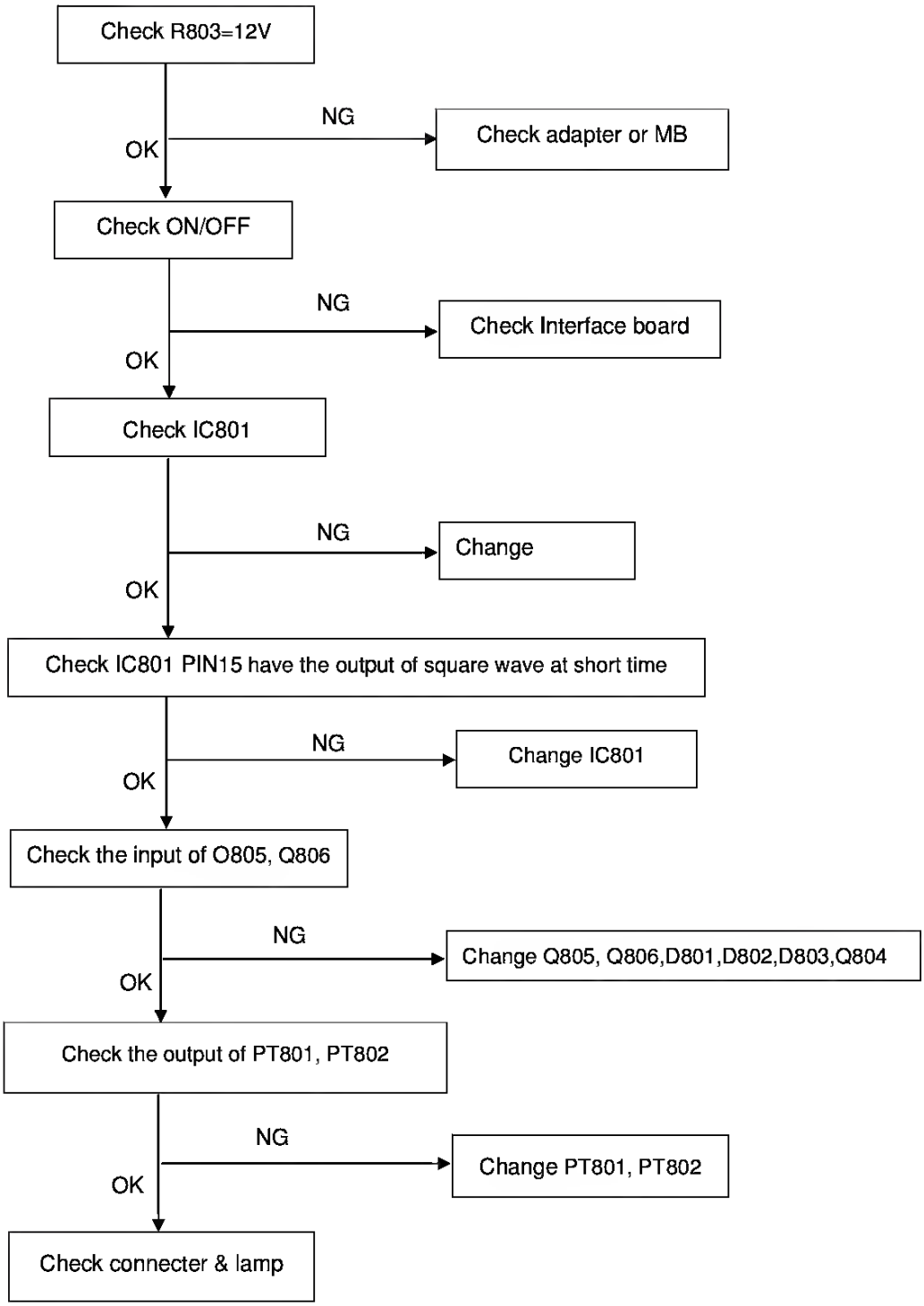
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No Power (No LED indicator)



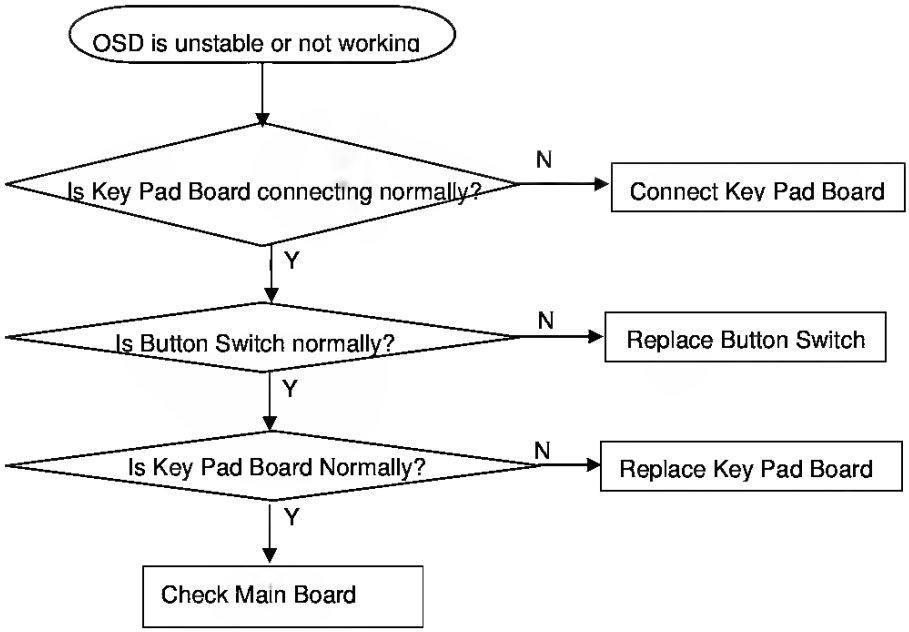
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W / LED, No Backlight



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Key Board



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Approximately 30 minutes should be allowed for warm up before proceeding white balance adjustment.

First adjust PC mode and then adjust AV mode, before started adjust white balance, please setting the Chroma-7120 **MEM. Channel 1 to Cold** color, **MEM. MEM. channel 3 to standard** color, **MEM.** and **MEM. channel 5 to warm** color, (our cold parameter is x = 300 ± 15, y = 310 ± 15, Y = 350 ± 7 cd/m2 ; ;standard parameter is x =314 ± 15, y =324 ± 15, Y = 350± 7 cd/m^2;warm parameter is x =326± 15, y = 335± 15, Y = 350± 7 cd/m2),

Color Temp.		Cold(7500K)	Standard(6500K)	Warm(5000K)
PC MODE	x	300	314	326
	y	310	324	335
	Y	**350**	**350**	**350**
AV MODE	x	300	314	326
	y	310	324	335
	Y	**420**	**420**	**420**

How to setting MEM. channel you can reference to Chroma-7120 user guide or simple use " **SC**" key and " **NEXT**" key to modify x, y , Y value and use "**ID**" key to modify the TEXT description

Following is the procedure to do white-balance adjust

Notes: Step of AV mode adjustment is the same as PC mode,

PC mode:

I. Press menu key, then press code 2→3→ 4will into the factory mode, the OSD will show menu and a word "Factory" at the top of Menu.

1. In the factory mode select "COLOR TEMP" may be select the difference color temp.
2. Select SCALER Adjustment:
   RG, GG, BG → R, G, B Gain adjust.
   RB, GB, BB → R, G, B Bias adjust.

<Notes: the R, G, B gain use 9 bits, and R, G, B bias use 10 bits to save the value in EEPROM, so if the R, G, B gain and bias is 255 to 256, the "P0 256" will change to "P10">

II. Bias (Low luminance) adjustment:

1. Set the raster pattern (Black pattern with 1024 768) Input.
2. Set the contrast on OSD window to the value=80, Brightness set to "80"
3. Adjust the brightness on OSD until chroma 7120 measurement reach the lowest value.

III, Gain adjustment:

A. Adjust Cold color-temperature:

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1. Set the Contrast of OSD function to 80 and Adjust Brightness to chroma-7120 Y>350 cd/m2
2. Switch the chroma-7120 to RGB-mode (with press "MODE" button)
3. Switch the MEM. channel to Channel 03 (with up or down arrow on chroma-7120)
4. The LCD-indicator on chroma-7120 will show x =300 ± 15, y = 310 ± 15, Y = 350 ± 7 cd/m2
5. Adjust the Color (user) Mode: RED on OSD window, until chroma 7120 indicator reached the value R=100
6. Adjust the Color (user) Mode: GREEN on OSD window, until chroma-7120 indicator reached the value G=100
7. Adjust the Color (user) Mode: BLUE on OSD window, until chroma-7120 indicator reached the value B=100
8. Repeat above procedure (Item 5,6,7) until chroma-7120 RGB value meet the tolerance =100±2
9. Switch the chroma-7120 to x, y, Y mode With press "MODE" button to check the color temp is in SPEC. or not.
10. Press MENU to exit the SCALER page and press Save to save the current color temp.

B. Adjust Standard color-temperature:

1. Set the Contrast of OSD function to 80 and Adjust Brightness to chroma-7120 Y>350 cd/m2
2. Switch the chroma-7120 to RGB-mode (with press "MODE" button)
3. Switch the MEM. channel to Channel 03 (with up or down arrow on chroma-7120)
4. The LCD-indicator on chroma-7120 will show x = 314 ± 15, y = 324 ± 15, Y = 350 ± 30cd/m2
5. Adjust the Color (user) Mode: RED on OSD window, until chroma 7120 indicator reached the value R=100
6. Adjust the Color (user) Mode: GREEN on OSD window, until chroma-7120 indicator reached the value G=100
7. Adjust the Color (user) Mode: BLUE on OSD window, until chroma-7120 indicator reached the value B=100
8. Repeat above procedure (item 5,6,7) until chroma-7120 RGB value meet the tolerance =100 ± 2
9. Switch the chroma-7120 to XyY mode With press "MODE" button
10. Press MENU to exit the SCALER page and press Save to save the current color temp.

C. Adjust Warm color-temperature:

1. Set the Contrast of OSD function to 80 and Adjust Brightness to chroma-7120 Y>350 cd/m2
2. Switch the chroma-7120 to RGB-mode (with press "MODE" button)
3. Switch the MEM.channel to Channel 03 (with up or down arrow on chroma-7120)
4. The LCD-indicator on chroma-7120 will show x = 326 ± 15, y = 335 ± 15, Y = 350 ± 30cd/m2
5. Adjust the Color (user) Mode: RED on OSD window, until chroma 7120 indicator reached the value R=100
6. Adjust the Color (user) Mode: GREEN on OSD window, until chroma-7120 indicator reached the value G=100
7. Adjust the Color (user) Mode: BLUE on OSD window, until chroma-7120 indicator reached the value B=100
8. Repeat above procedure (item 5,6,7) until chroma-7120 RGB value meet the tolerance =100 ±2
9. Switch the chroma-7120 to X, y, Y mode with press "MODE" button
10. Press MENU to exit the SCALER page and press Save to save the current color temp.

Turn the POWER-button off to on to quit from factory mode (in USER-mode, the OSD window location was placed at middle of screen)

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FRU (Field Replaceable Unit) List

Chapter 7

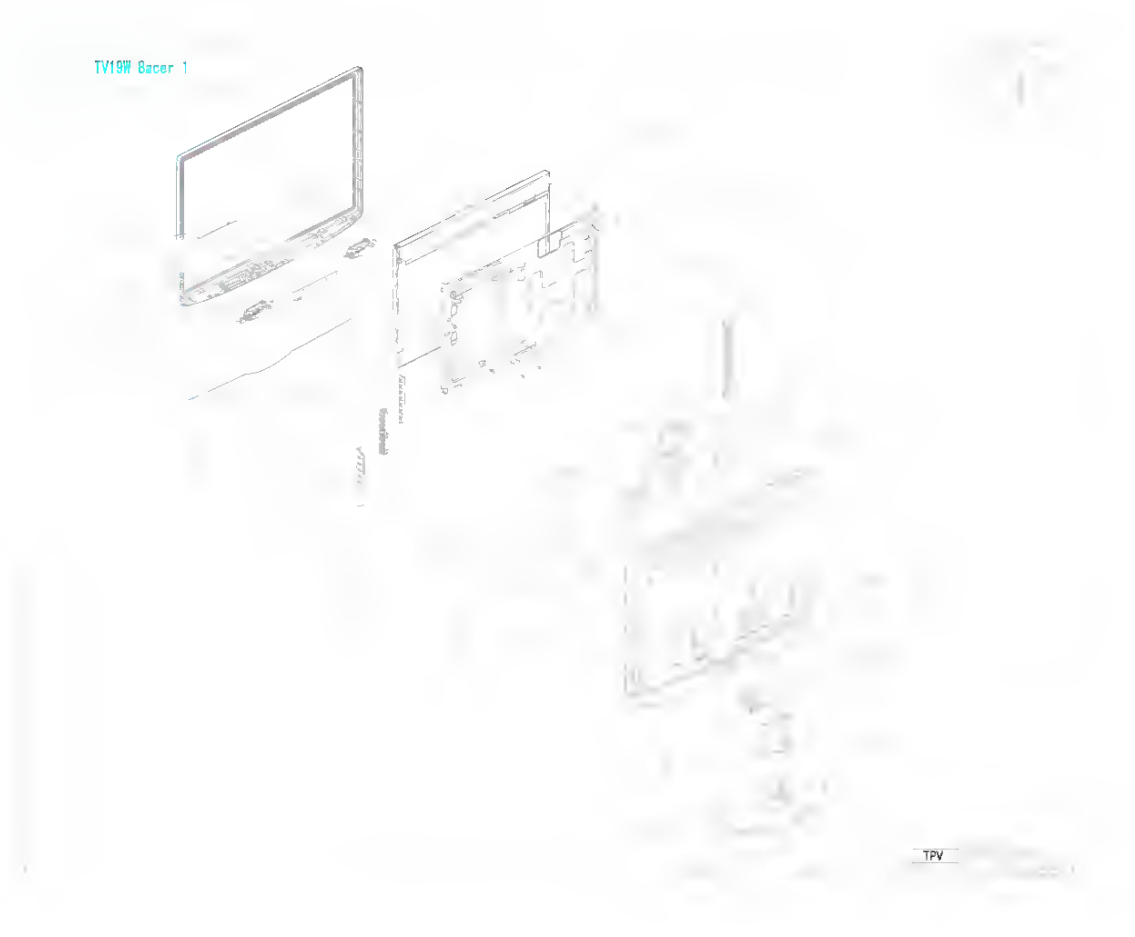
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AT1945 & AT1946.Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel (http://aicsl.acer.com.tw/spl/). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

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Exploded Diagram (Model: AT1945 & AT1946)



item	DESCRIPTION	item	DESCRIPTION
1	BEZEL	18	MAIN BOARD PCB
2	DECO-ACER	19	SCREW
3	COVER_FUNC-ACER19	20	SCREW
4	BUTTON_FUNC	21	SCREW
5	LED_LENS-ACER	22	SCREW
6	STAND	23	SCREW
7	BASE_S1	24	SCREW
8	REAR COVER 19	25	SCREW
9	O36T 806 1	26	SCREW
10	MAIN FRAME	27	SCREW
11	BKT SIDE EU	28	SCREW
12	VESA BKT	29	SCREW
13	HINGE ASS'Y	30	SCREW
14	IR BOARD PCB	31	SCREW
15	SPEAKER	32	SCREW
16	PANEL	33	RUBBER WASHER
17	POWER BOARD PCB		

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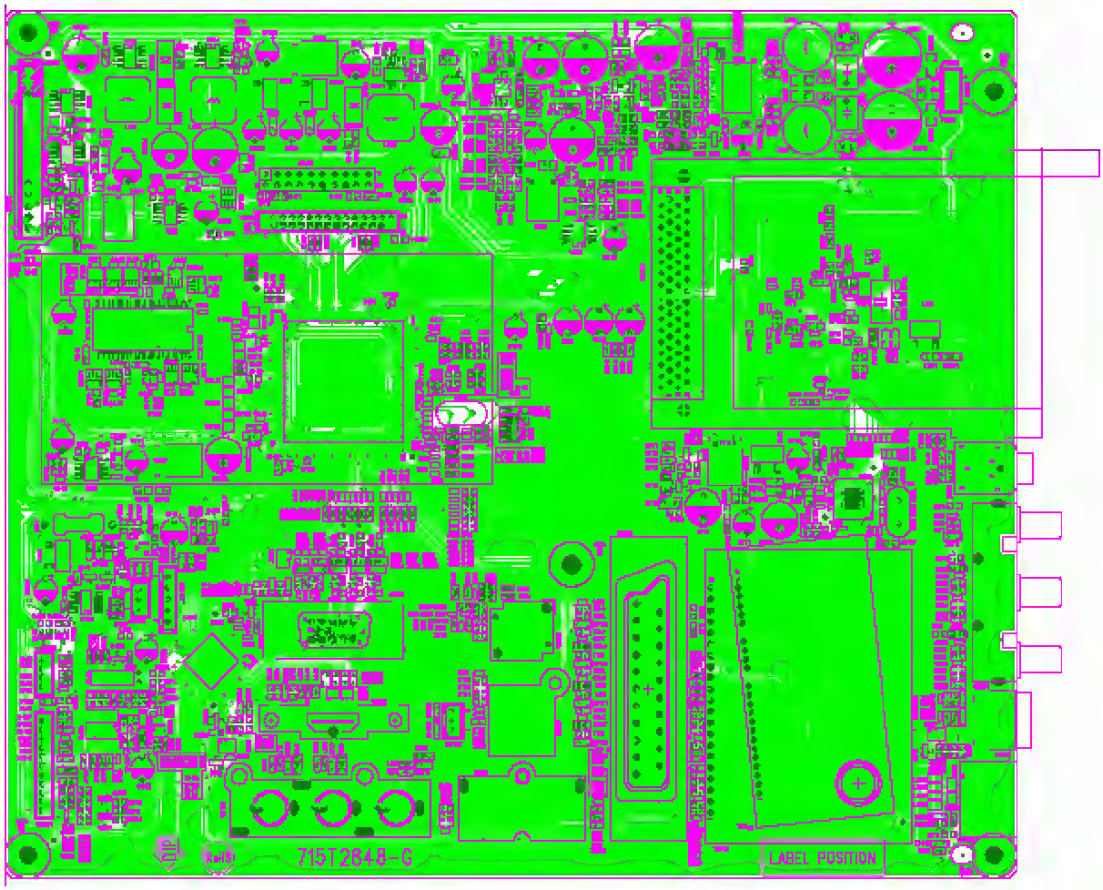
EDID Data

DDC DATA for VGA Input

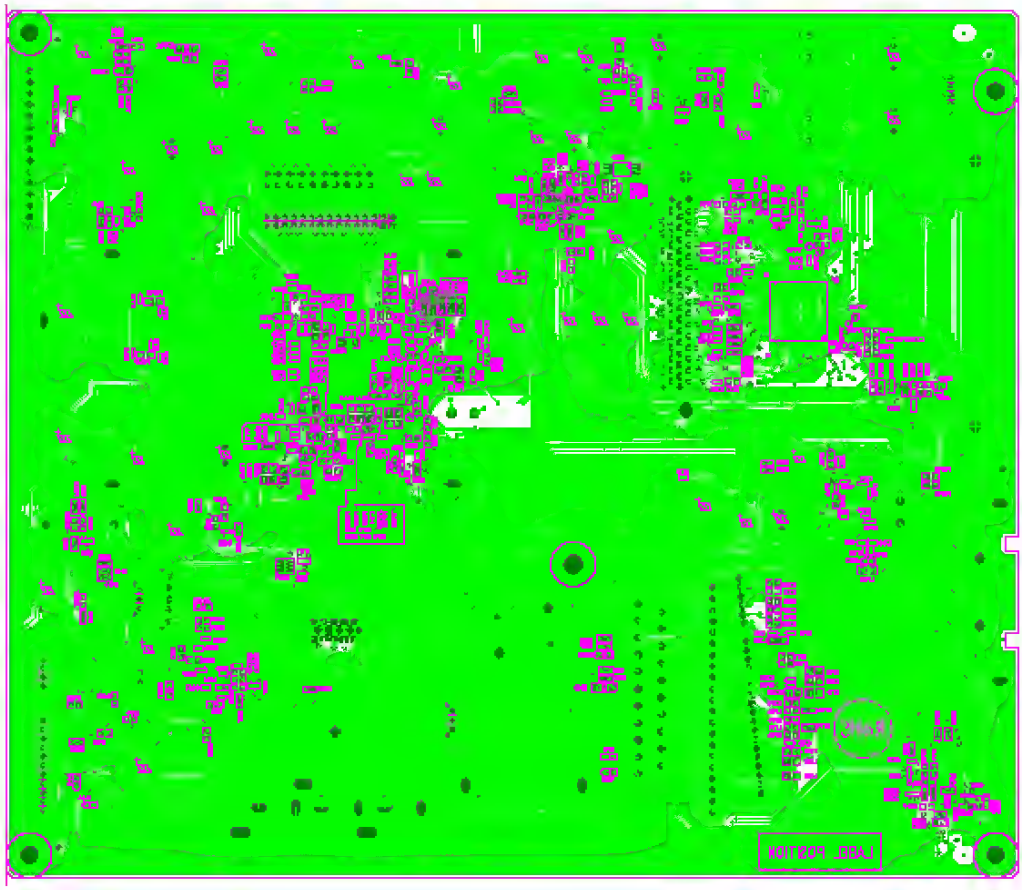
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
00 :	00	FF	FF	FF	FF	FF	FF	00	04	72	10	20	0B	95	0D	00
10:	33	11	01	03	1C	29	1A	78	2A	E5	B5	A3	55	49	99	27
20 :	13	50	54	BF	EF	00	81	C0	8B	C0	95	00	01	01	01	01
30:	01	01	01	01	01	01	9A	29	A0	D0	51	84	22	30	50	98
40:	36	00	9A	04	11	00	00	1C	00	00	00	FF	00	54	59	35
50 :	30	37	30	39	31	32	33	34	35	36	00	00	00	FC	00	31
60 :	39	50	46	4C	33	34	30	33	0A	20	20	20	00	00	00	FD
70:	00	38	4B	1F	50	11	00	0A	20	20	20	20	20	20	00	97

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Main Board Layout

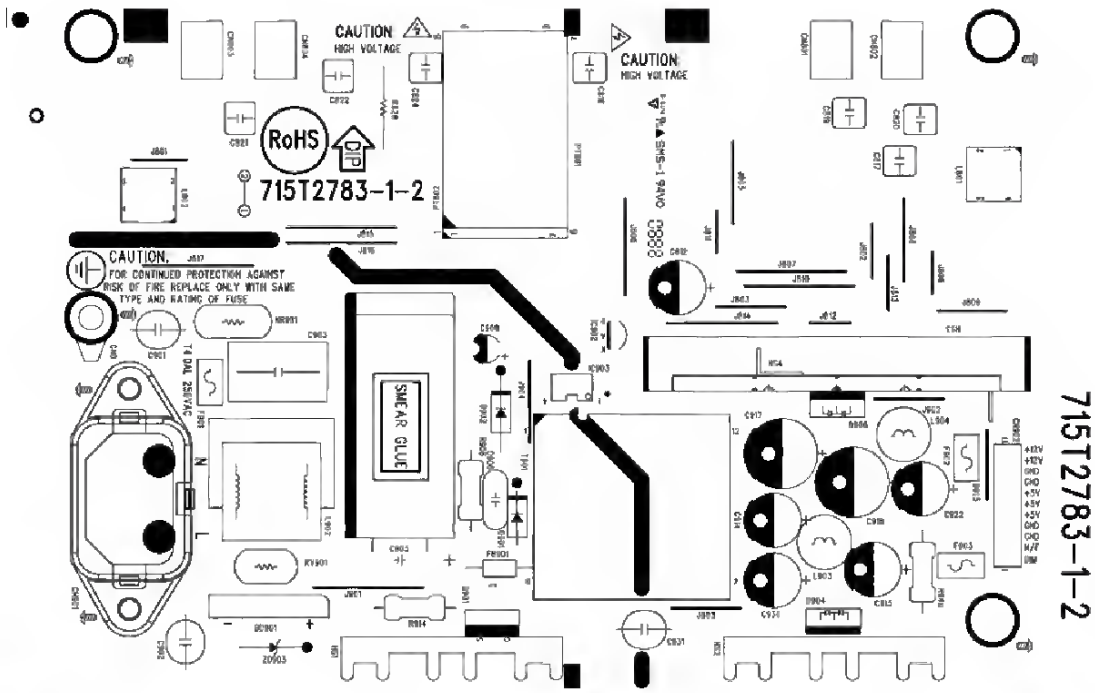


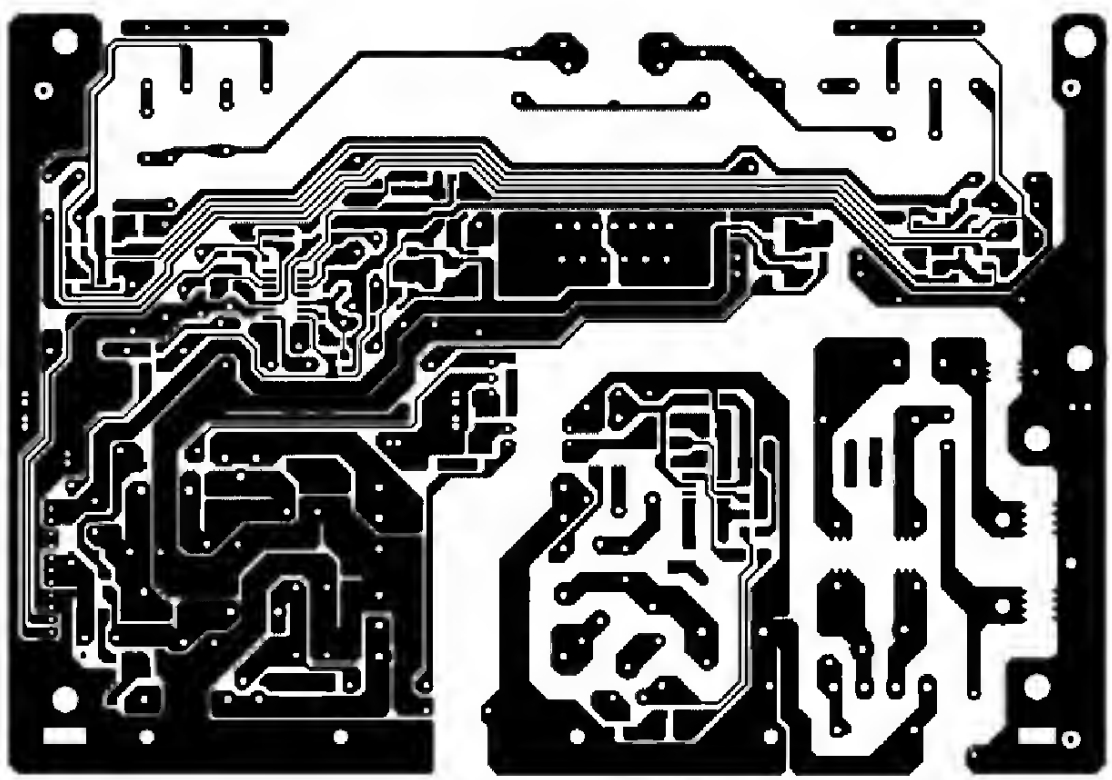
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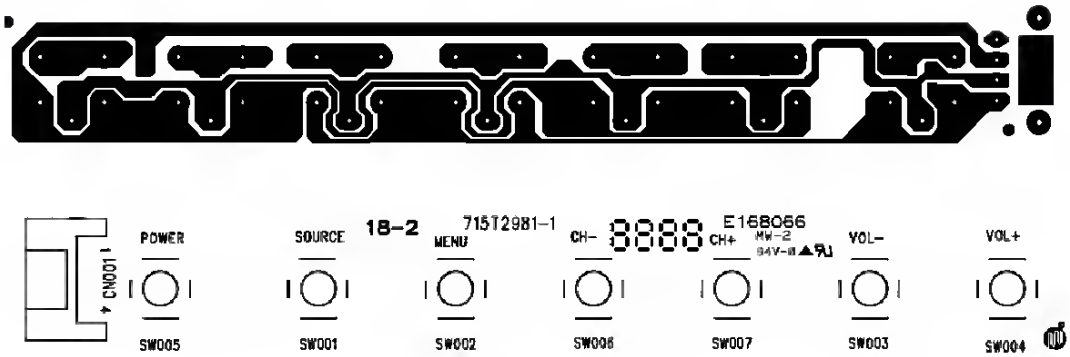
Power Board



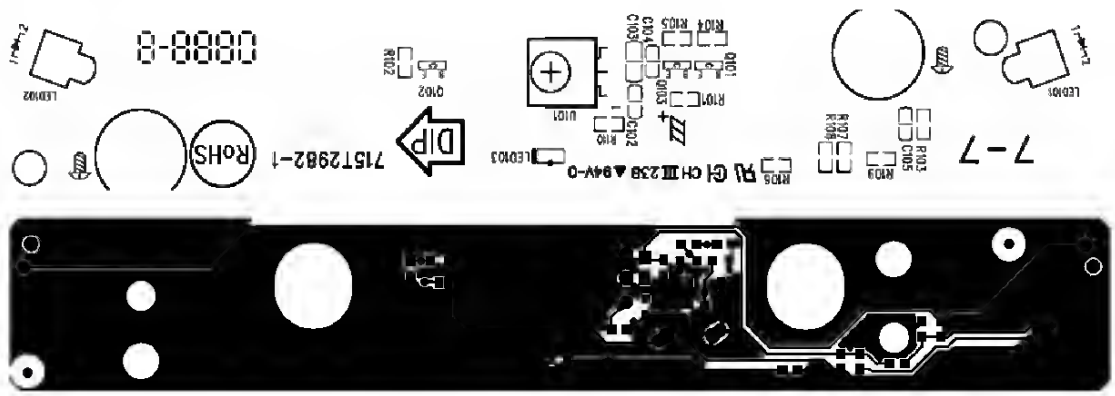


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Key Board



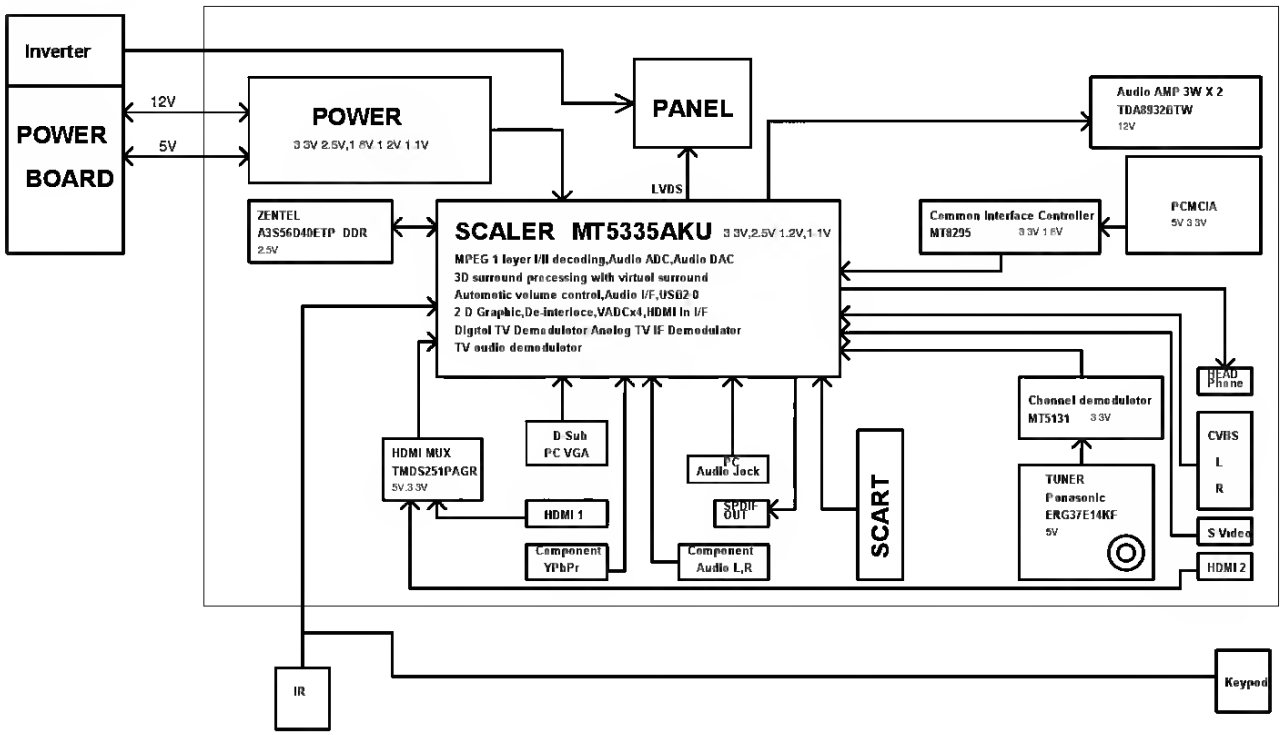
IR board



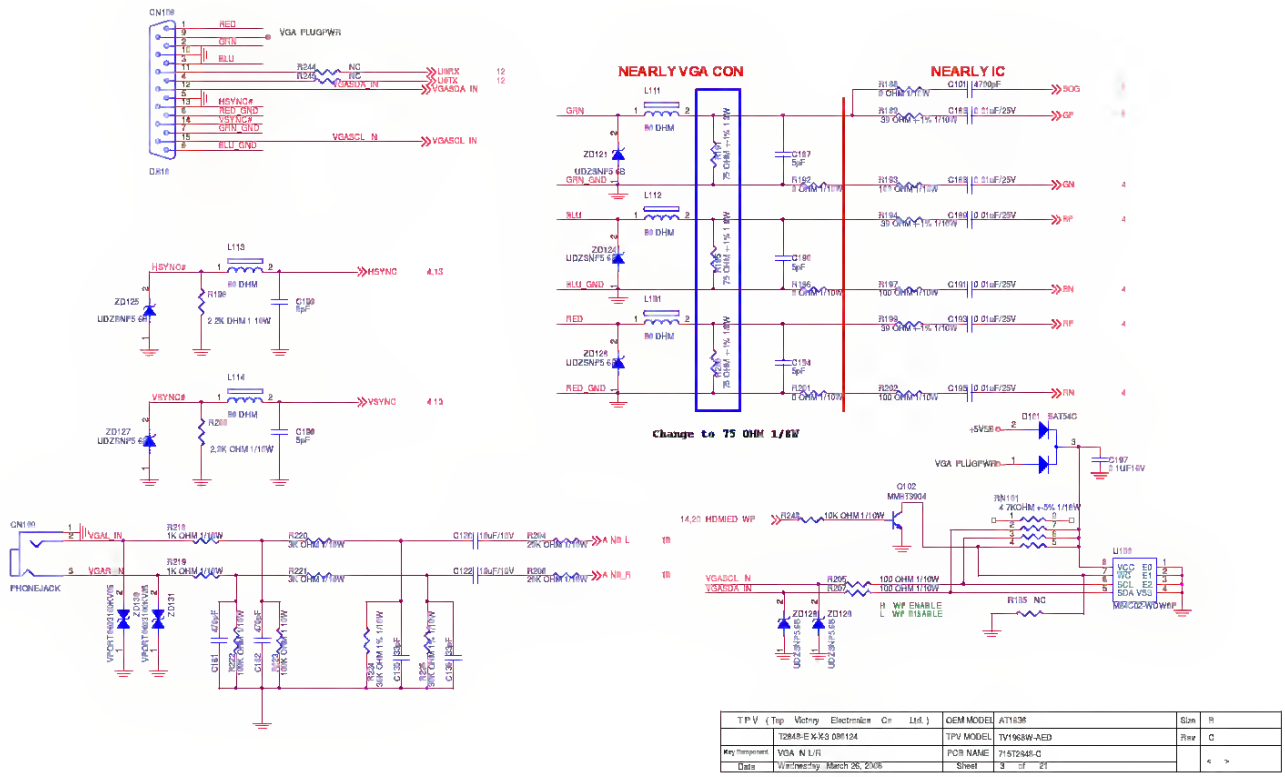
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Schematic Diagram

Main Board

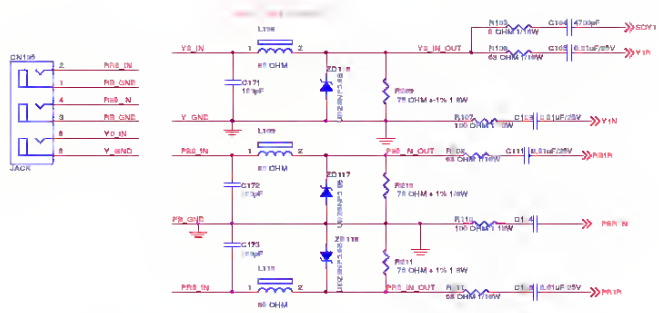


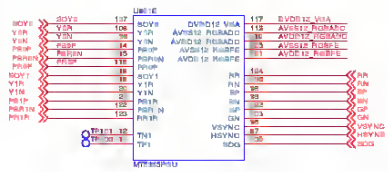
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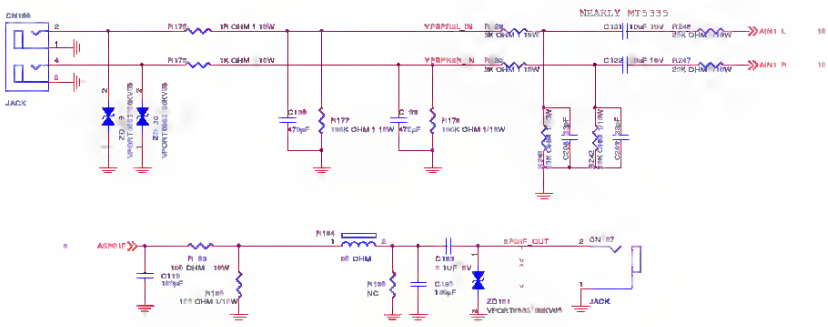


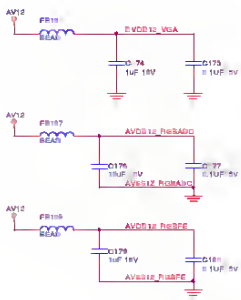
T P V (Top Victory Electronics Co Ltd.)		OEM MODEL	AT1936	Size B
	T2848-E X-X-3 08H124	TPV MODEL	TV1963W-AED	Rev C
Key Component	VGA IN L/R	PCB NAME	715T2945-C	
Date	Wednesday, March 26, 2008	Sheet	3 of 21	

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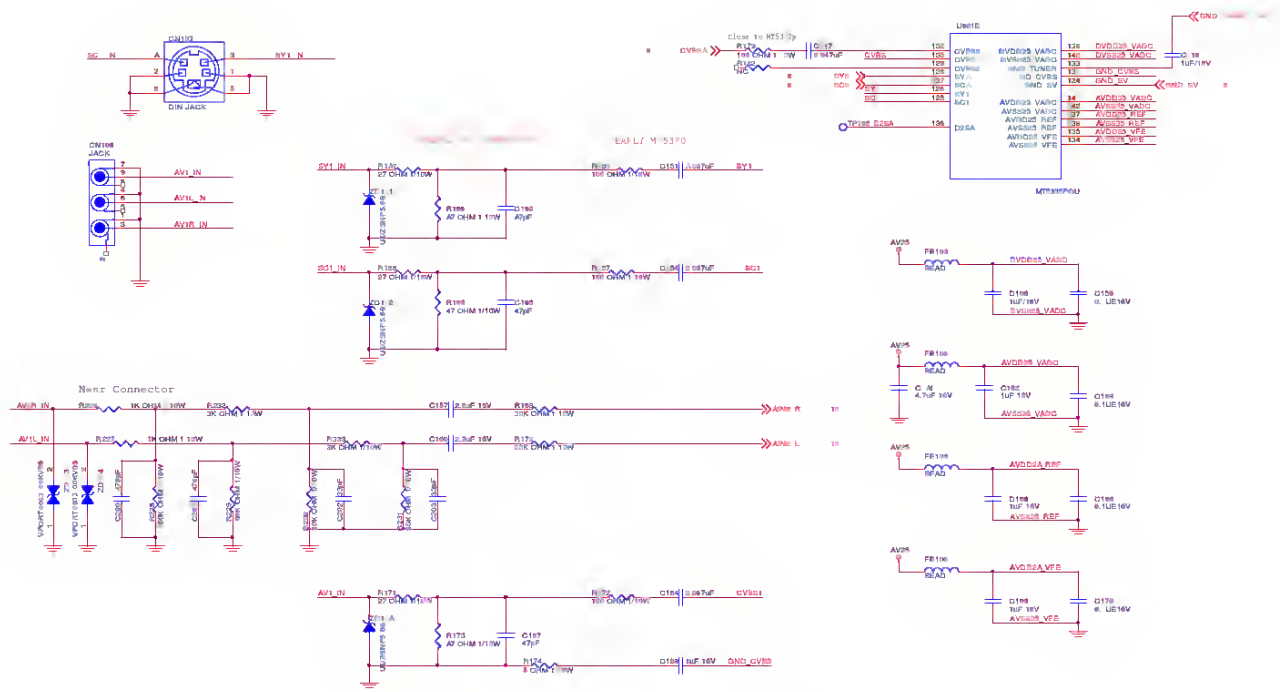




NC DVD part

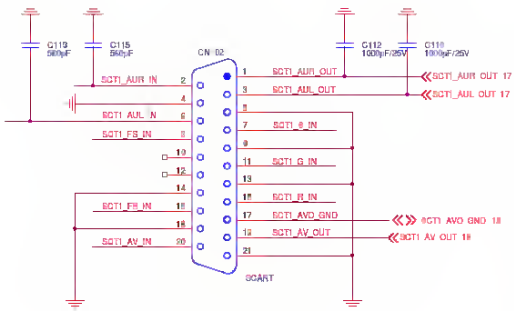
T.P.V. (Top Victory Electronics Co. Ltd.)		OEM MODEL	AT19M	Size B
	T3848-E-X-X-S-em9104	TPV MODEL	TV19S9W AED	Rev C
Key Component	VPh/PR/LVDS PCB	PCB NAME	T 6T29M-C	
Date	Wednesday, March 26, 2008	Sheet	4 of 21	< >

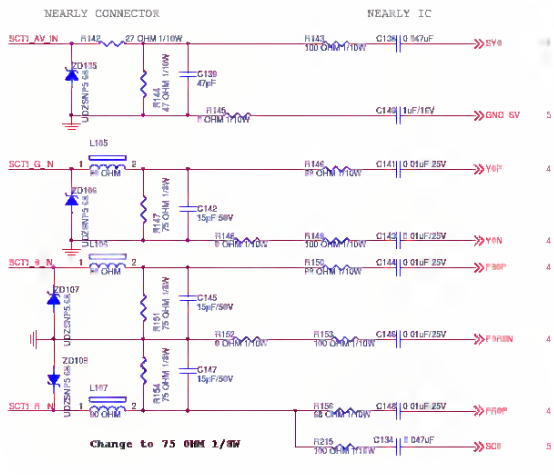
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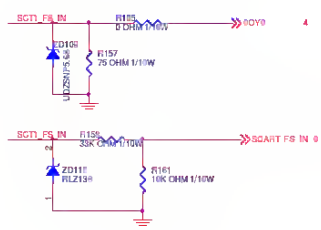


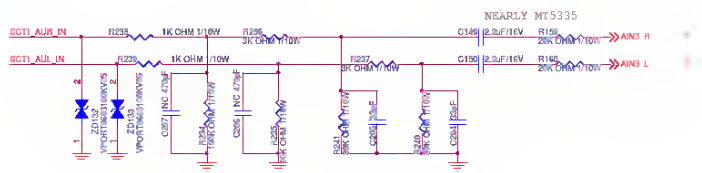
TPV (Top Victory Electronics Co. Ltd.)		OEM MODEL	ATV#####	Rev	B
	Tmac-D 3X9-9T1*.2*	TPV MODEL	TV####W AB##		C
Key Component	5-V rec/CVBS L/R	PCB NAME	T.37284B-D		
Date	Wednesday, March 26, 2008	Sheet	5 of 21		

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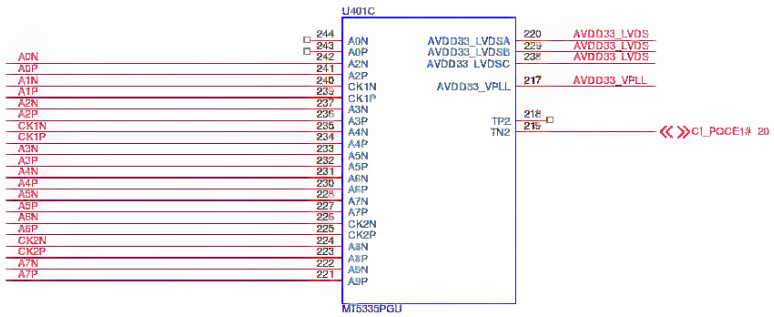


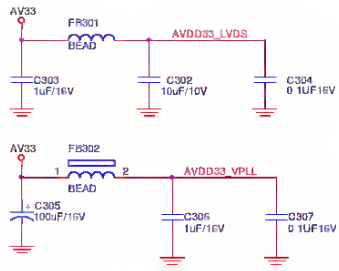


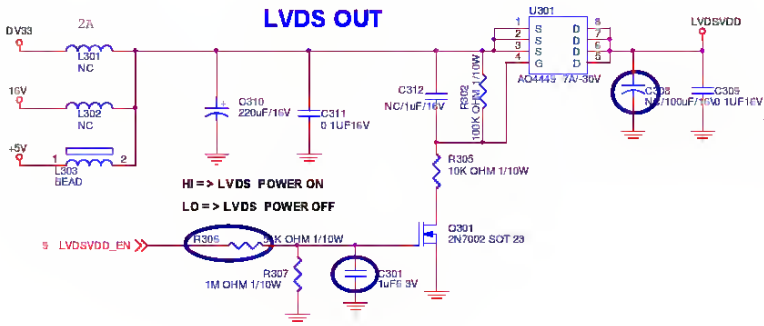


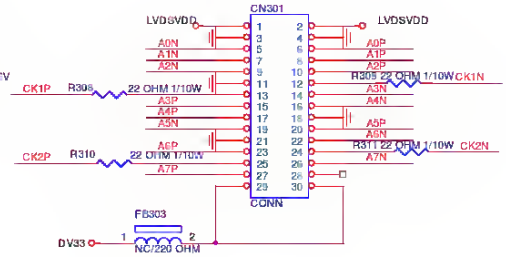
TPV (Top Victory Electronics Co. Ltd.)		OEM MODEL	AT1936	Size	B
	T2848-C-X-X-3-071128	TPV MODEL	TV1968W-AED	Rev	C
Key Component	SCART connector	PCB NAME	715T2848-C		
Date	Wednesday, March 28, 2007	Sheet	6 of 21		

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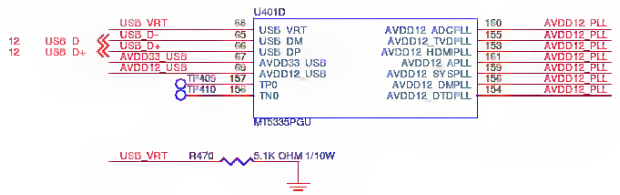


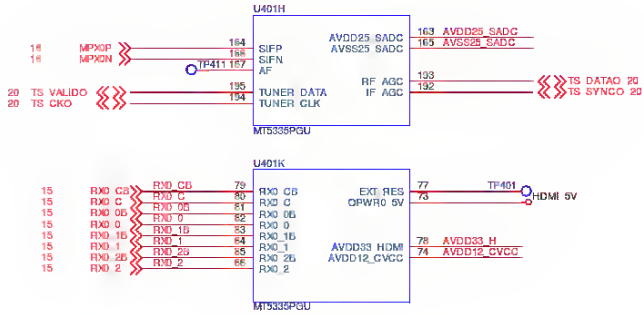


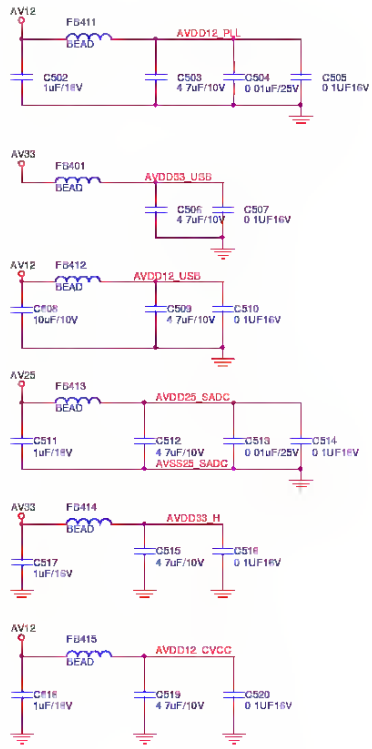


T P V (Top Victory Electronics Co Ltd)		OEM MODEL	AT1936	Size	A4
	T2848 C XX-3-071128	TPV MODEL	TV1960W AED	Rev	C
Key Component	LVDS OUT	PCB NAME	715T2848-C		< >
Date	Wednesday March 26 2008	Sheet	7 of 21		

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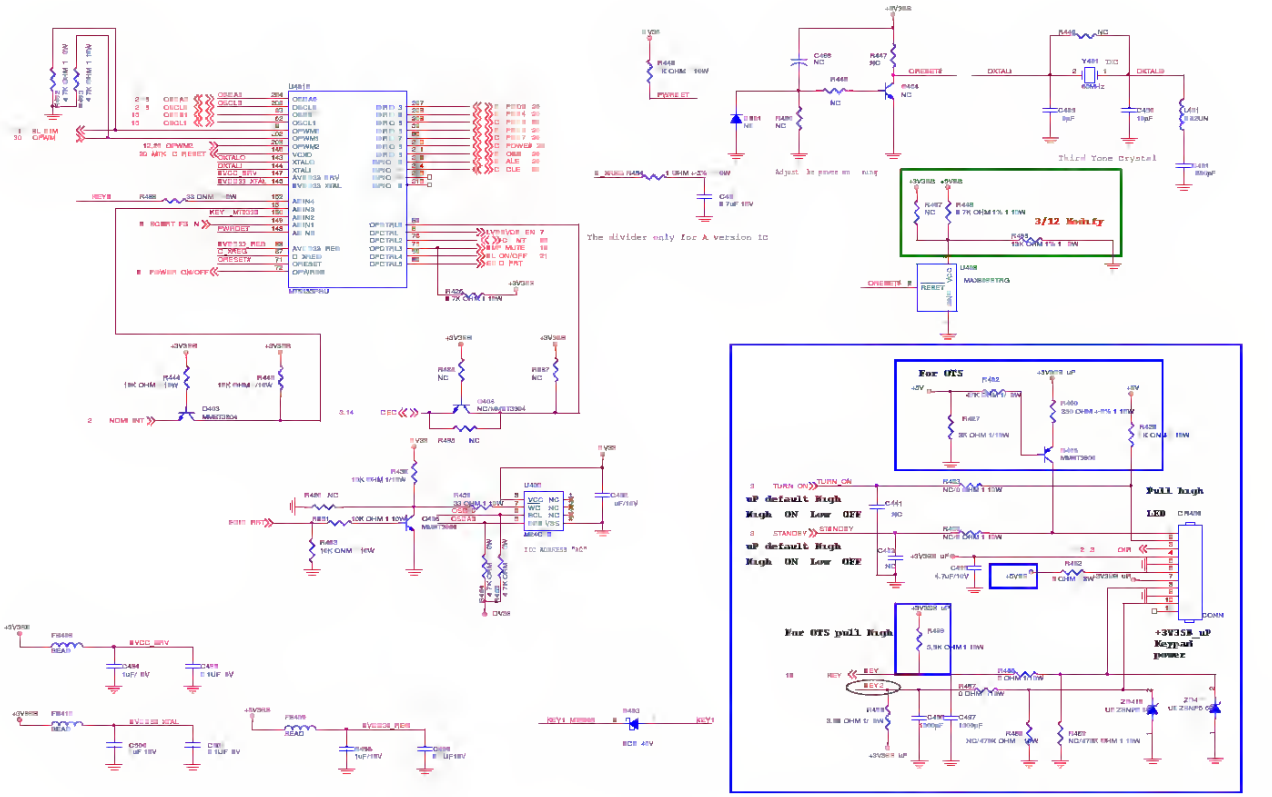




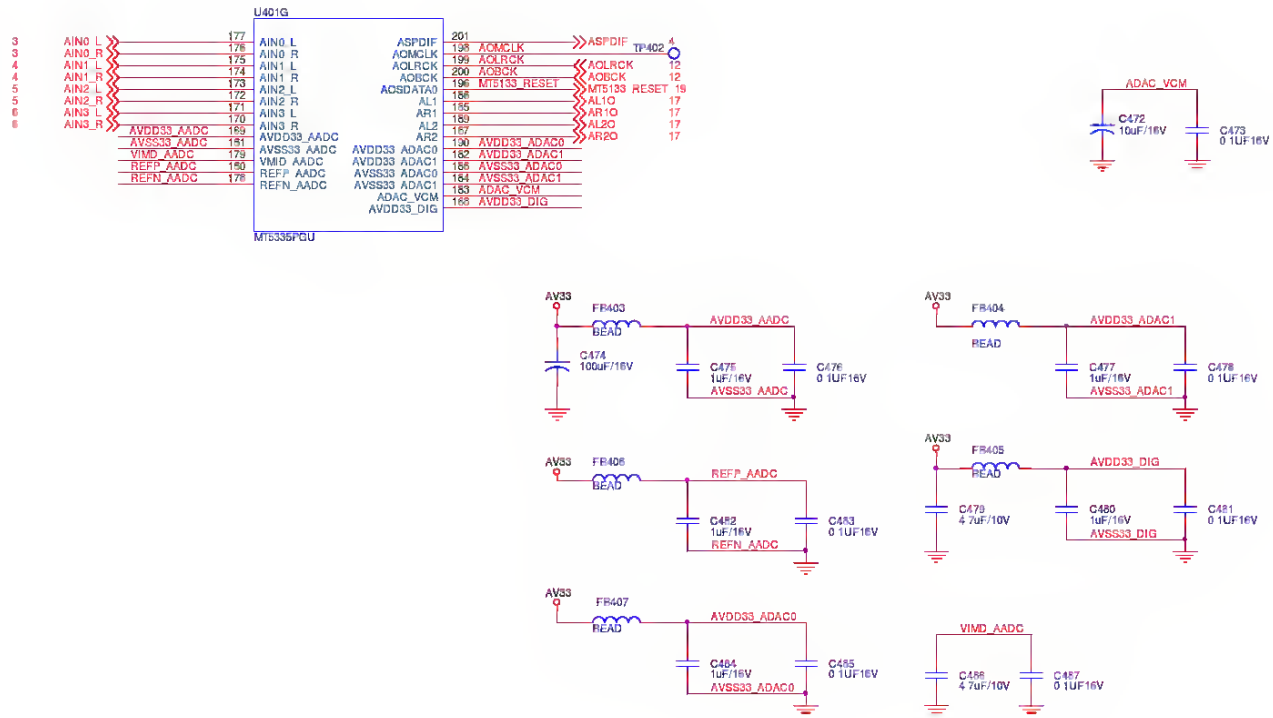


T P V (Top Victory Electronics Co Ltd)		OEM MODEL	AT1836	Size	A4
	T2848-C XX3-071128	TPV MODEL	TV1968W AED	Rev	C
Key Component	MT5335 HDMI/PLL	PCB NAME	715T2848 C		< >
Date	Wednesday March 26 2008	Sheet	8 of 21		

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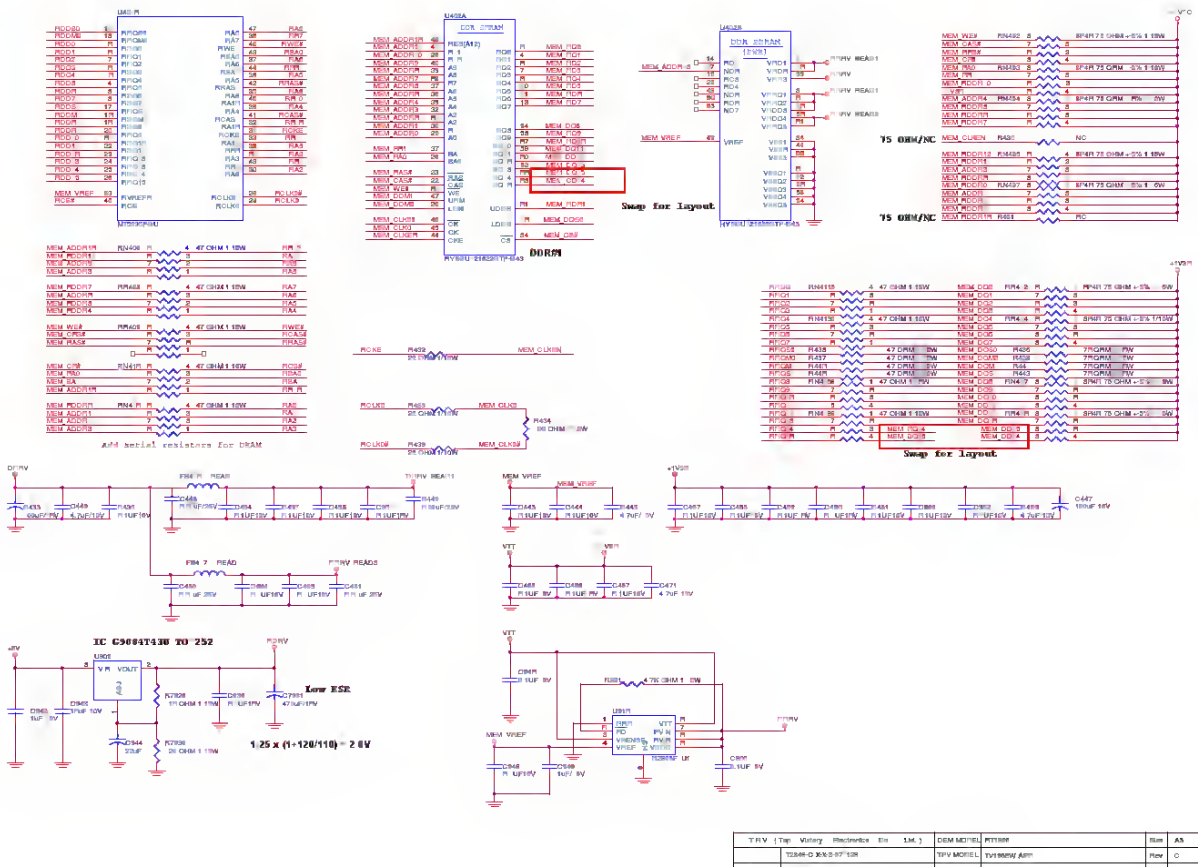


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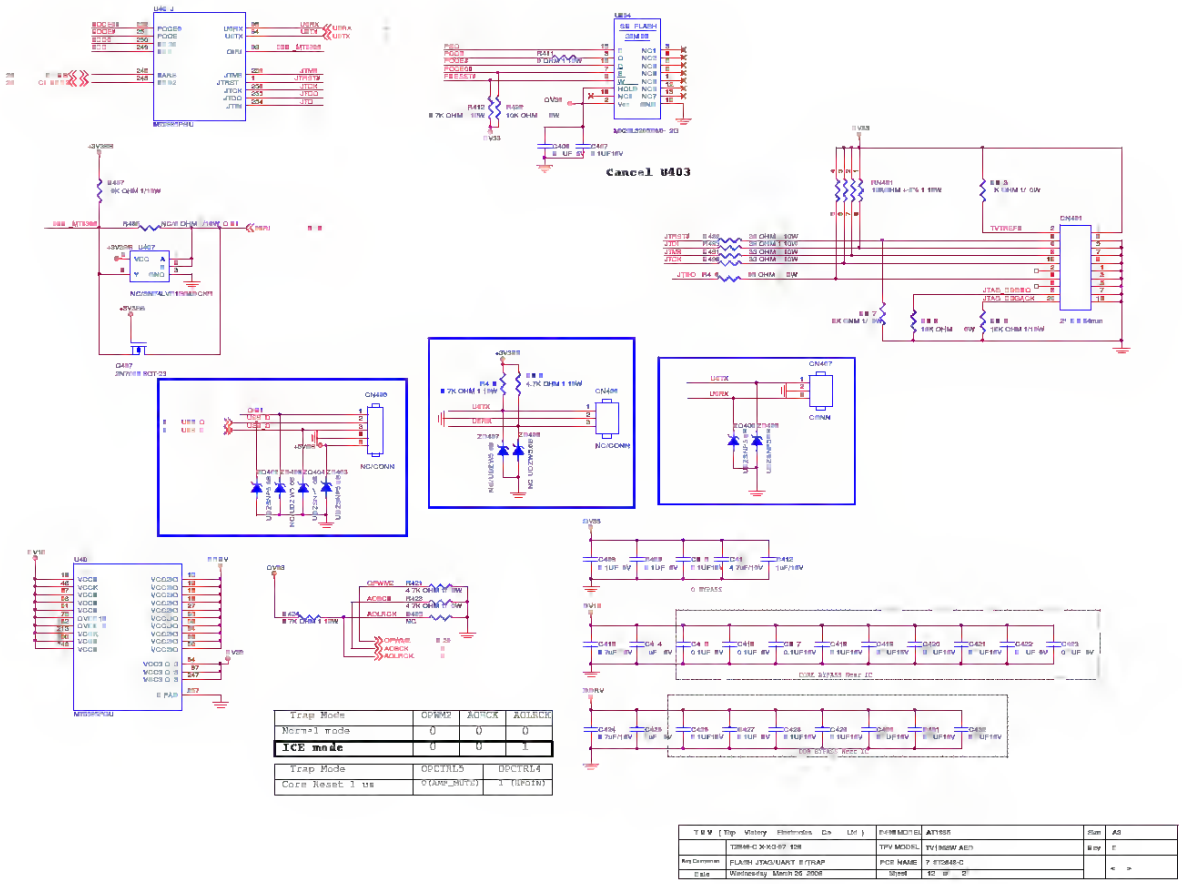
T P V (Top Victory Electronics Co Ltd)		OEM MODEL	AT1938	Size A4
	T2848 C X-X-3 071126	TPV MODEL	TV1968W AED	Rev C
Key Component	MT5335 Audio In/Out	PCB NAME	715T2848 C	< >
Date	Wednesday March 26 2008	Sheet	10 of 21	

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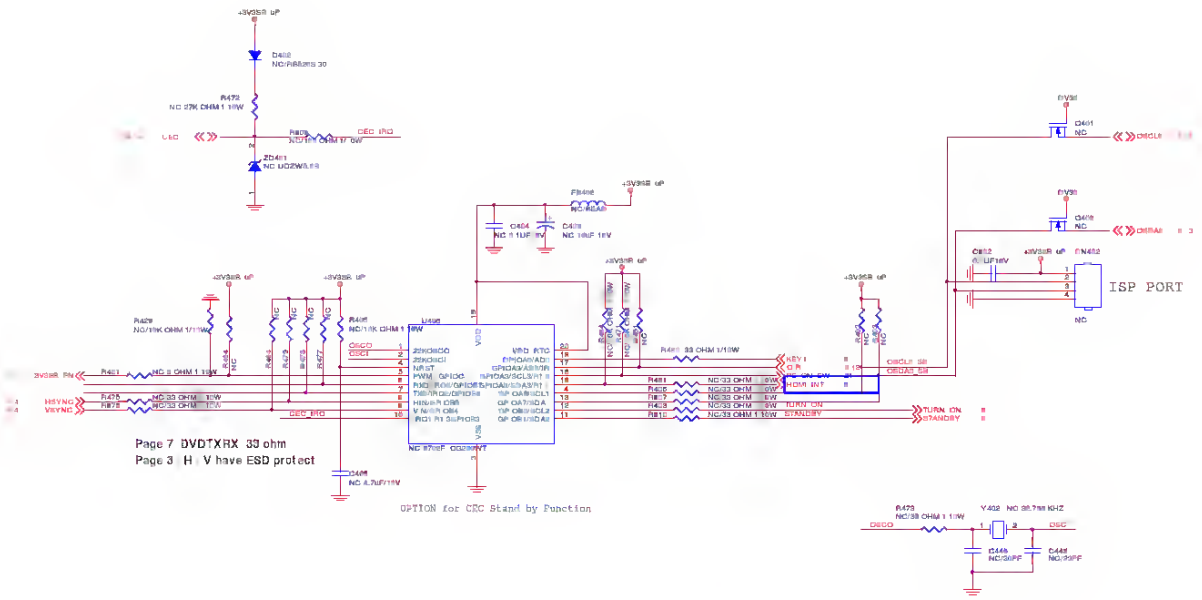


T.P.V. (Top Victory Electronics Co. Ltd.)	DEM MODEL	PT1886	Size	A3
TG846-G 30-3-97*63A	TPV MODEL	TV1886W ASM	Rev	C
Key Component	PCB NAME	MEMORY		
Date: Wednesday, March 26, 2008	Sheet	1 of 1		

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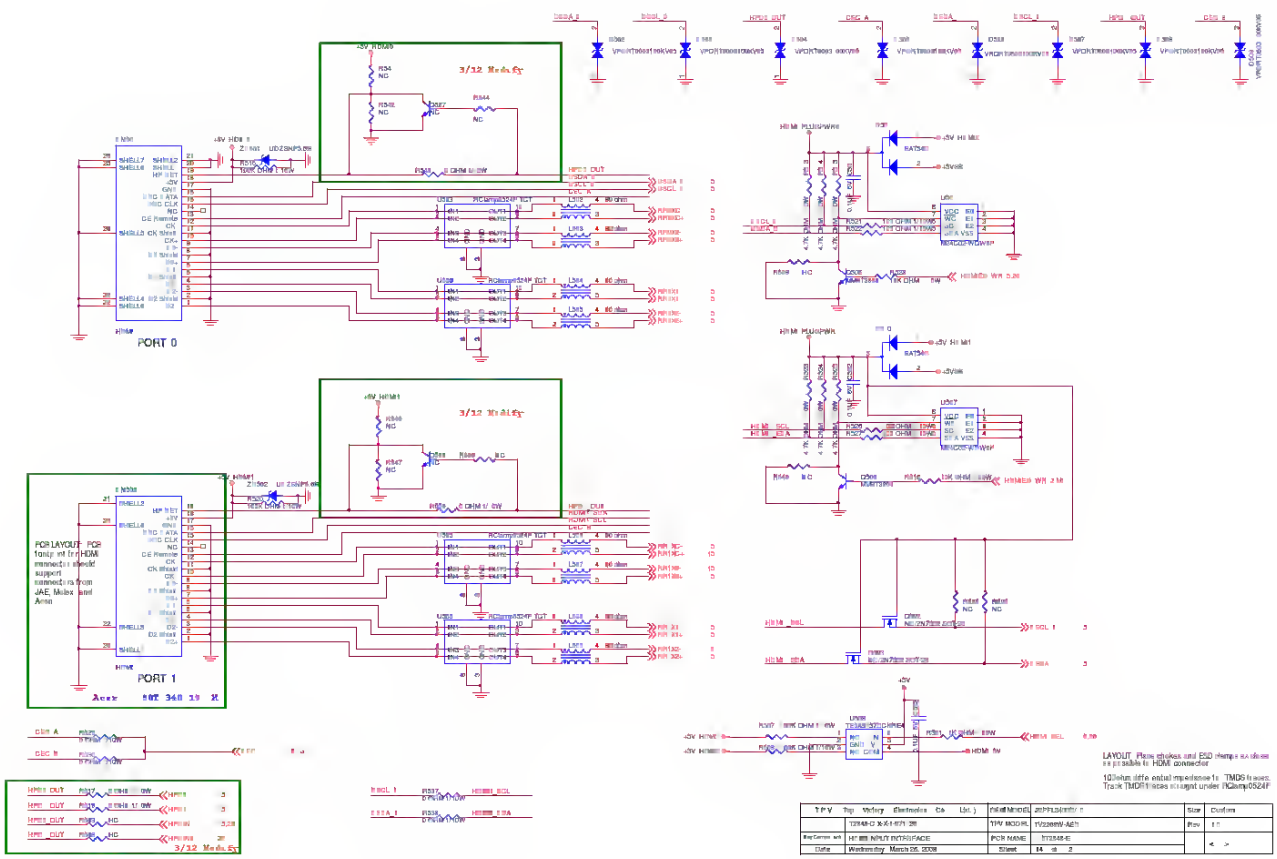


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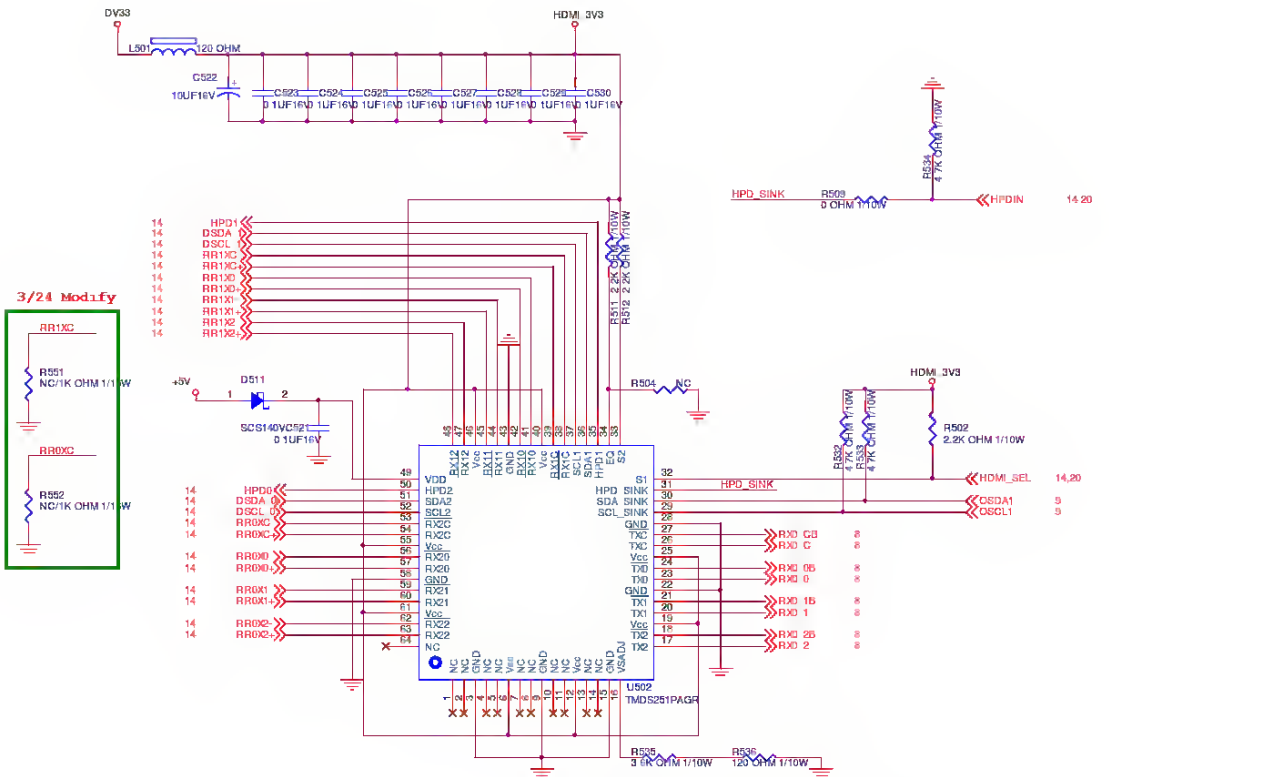


T P V [Top Vision Electronics Co Ltd]		OEM MODEL	ATtrain	Size	B
	TM48-C-XXX-P112B	TPV MODEL	TV1mstW AED	Rev	05
Key Component	CEC sh	PCB NAME	7 8T2848-C		
Date	Wednesday March 26, 2008	Sheet	18 of 24		

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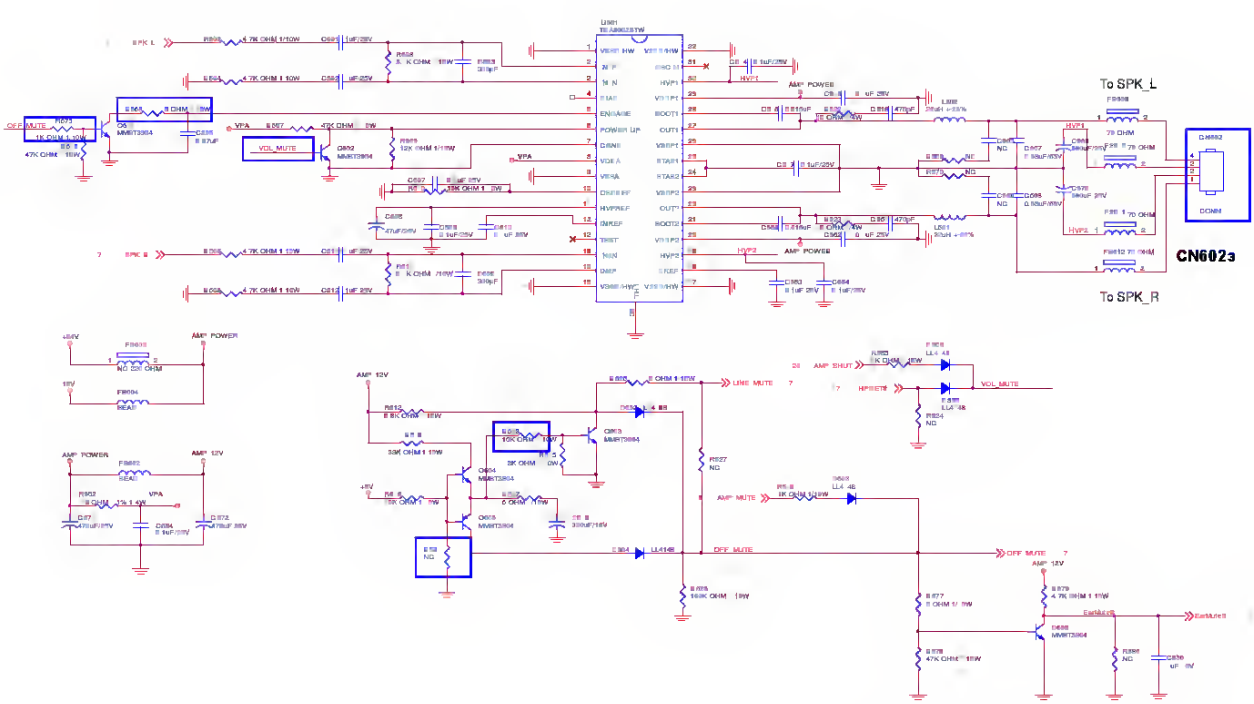


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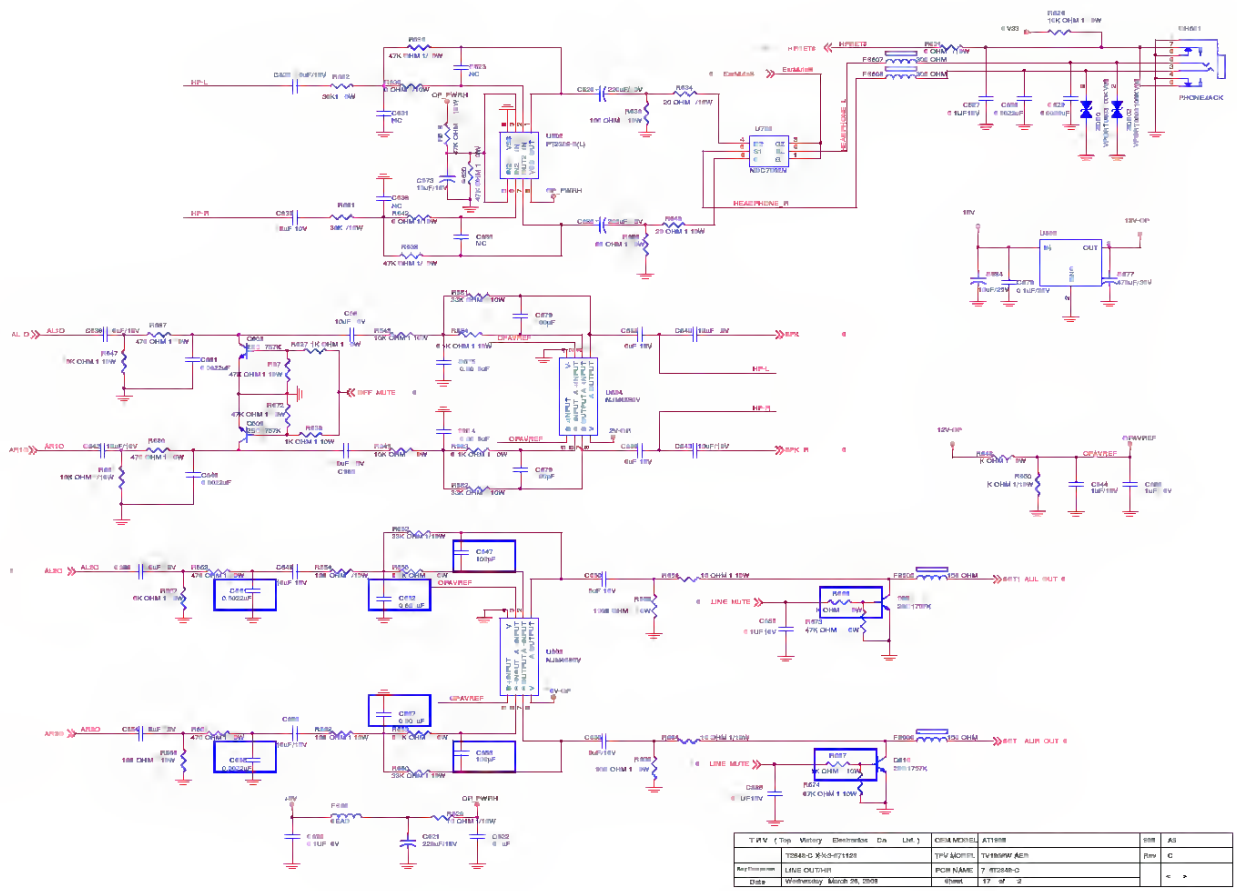
T P V (Top Victory Electronics Co Ltd)		OEM MODEL	AT1936	Size	A4
	T2648-C XX3-071128	TPV MODEL	TV1908W AED	Rev	C
Key Component	TMDS251 HDMI 2.1 Switch	PCB NAME	715T2648-C		< >
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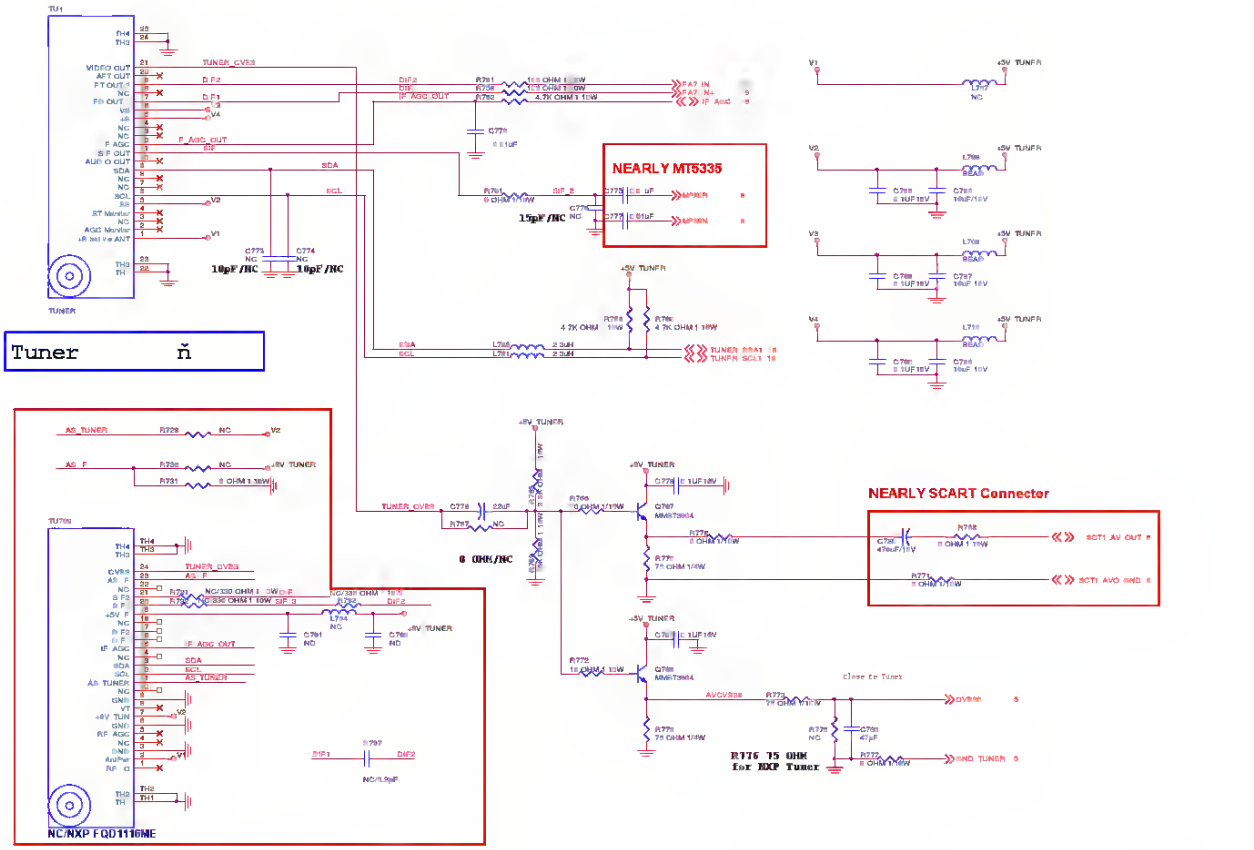
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TPV (Top Victory Electronics Co. Ltd.)		OEM MODEL	AT1958	Size	A3
	T2648-C 303G-F75 SE	TPV MODEL	TV 3087A-AE1	Rev	C
Key Component	AUDIO AMP CLASS T	PCB NAME	715T2648-C		
Date	Wednesday, March 26, 2008	Sheet	11 of 21		

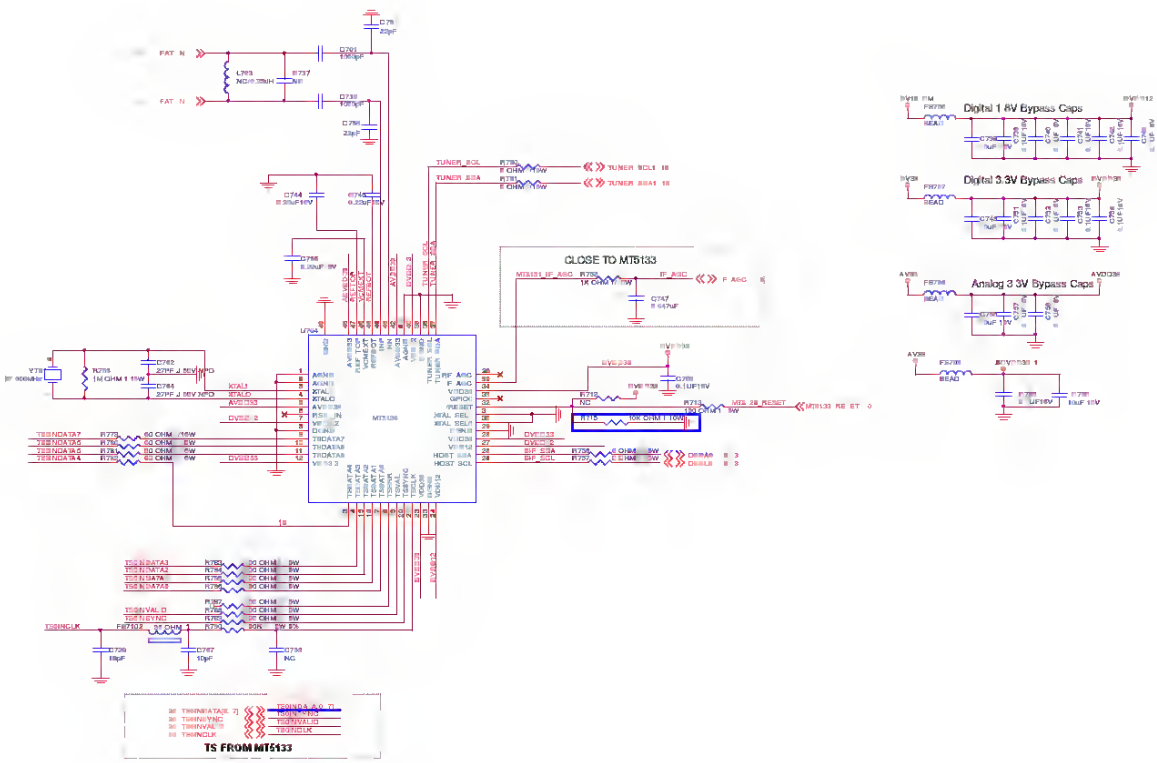
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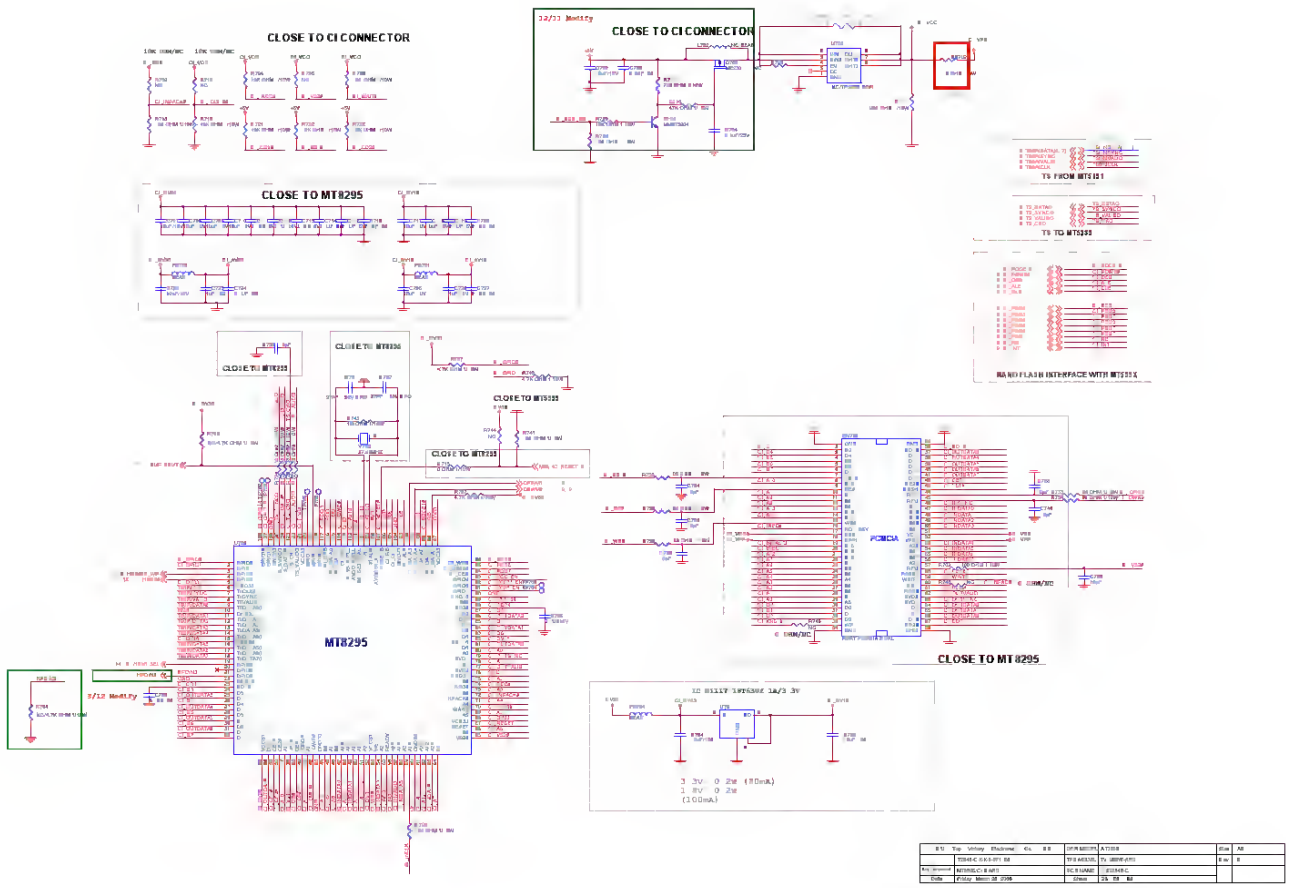
T P V [Top Vision Electronics Co Ltd]		OEM MODEL	ATsmb	Size	A3
	T5643-C-9XX-1-TP1115	TPV MODEL	TV smbW A3D	Rev	C
Key Component	EU Tuner Interface	PCB NAME	T_5725AR-C		
Date	Wednesday, March 05, 2008	Sheet	1 of 21		

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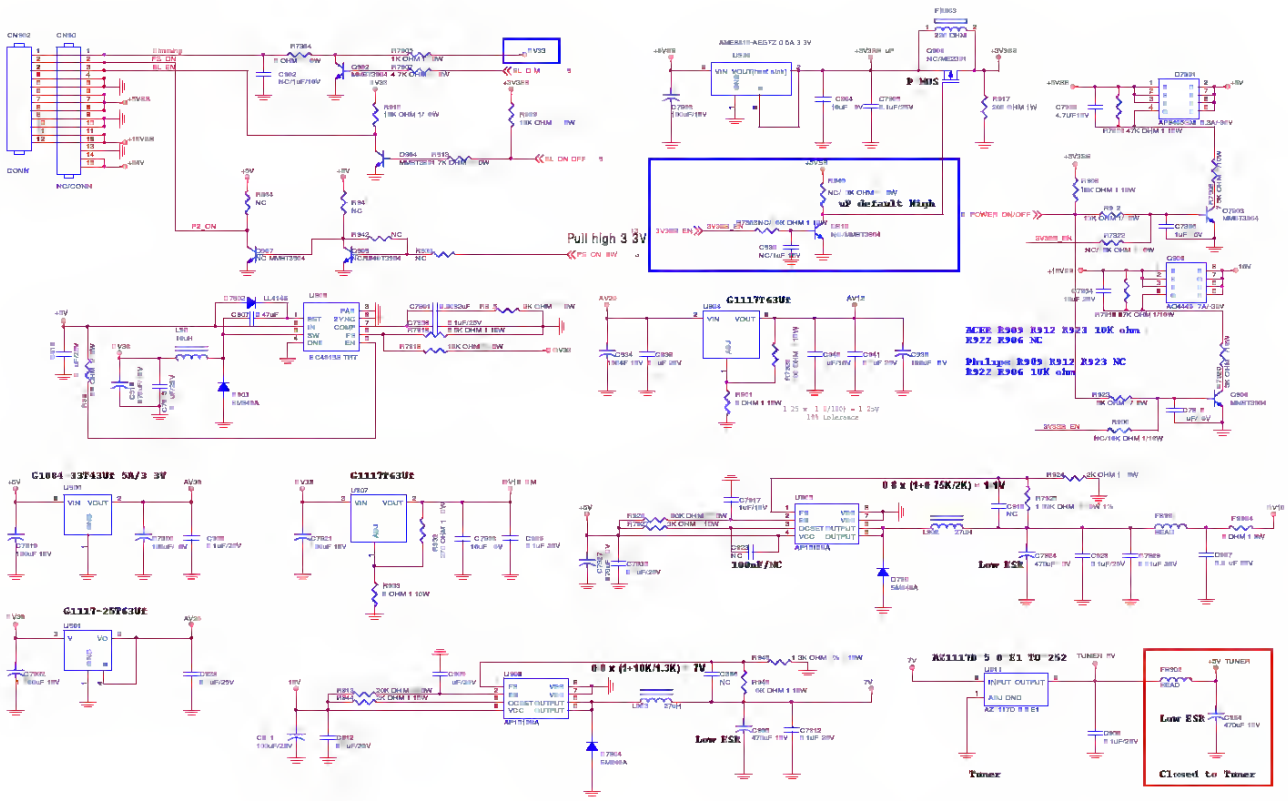


T.R.V. [Top Victory Electronics Co. Ltd.]		OEM/ODM	ATI/VB	Size	A3
	TSM4HC3X3-07P2A	TPV MODEL	TV[69]M ABP	Rev	D
Key Component	MT5133 ASIC	PCB NAME	T.MT5565.C		
Date	Wednesday, March 26, 2008	Sheet	18 of 87		

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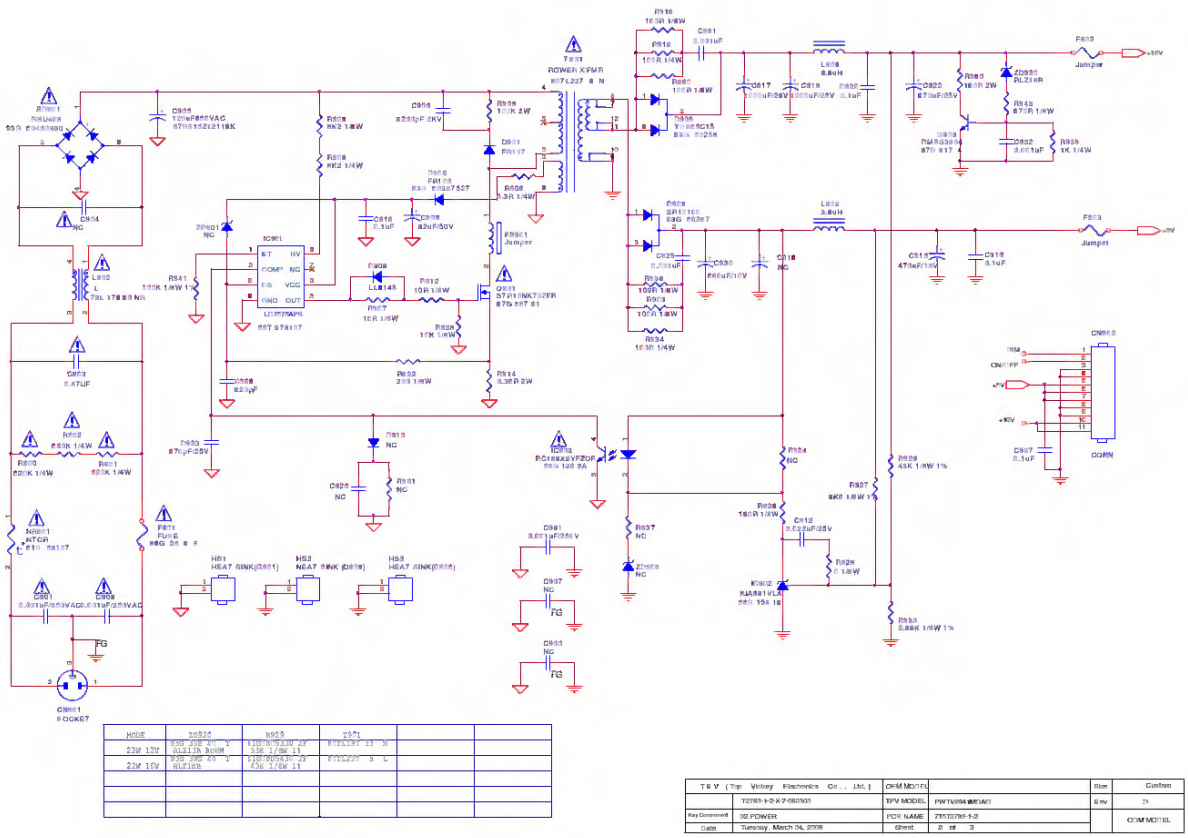
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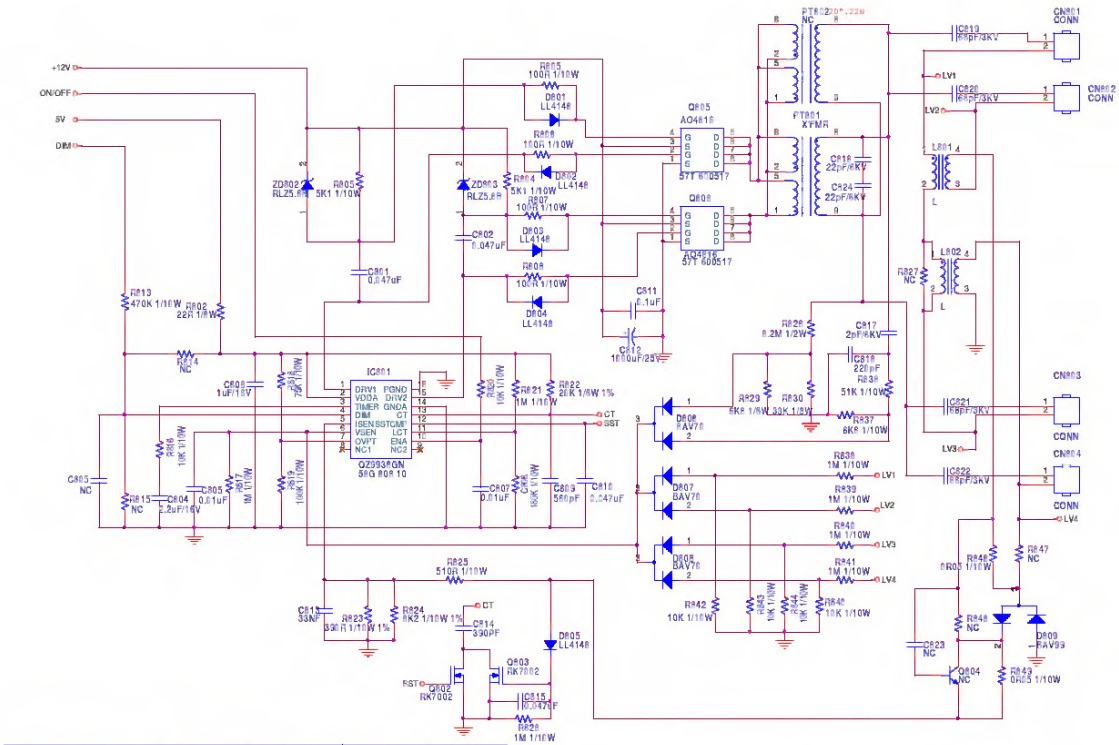
TPV (Top Victory Electronics Co., Ltd.)		ORM MODEL: 8T19R	Size: A3
	7S48-C16X3-07 12S	TPV MODEL: TV1909W-AF1	Rev: C
Key Component	POWER	PCB NAME: 715T2848-C	
Date:	Friday, March 28, 2008	Sheet: 21 of 29	

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Power board



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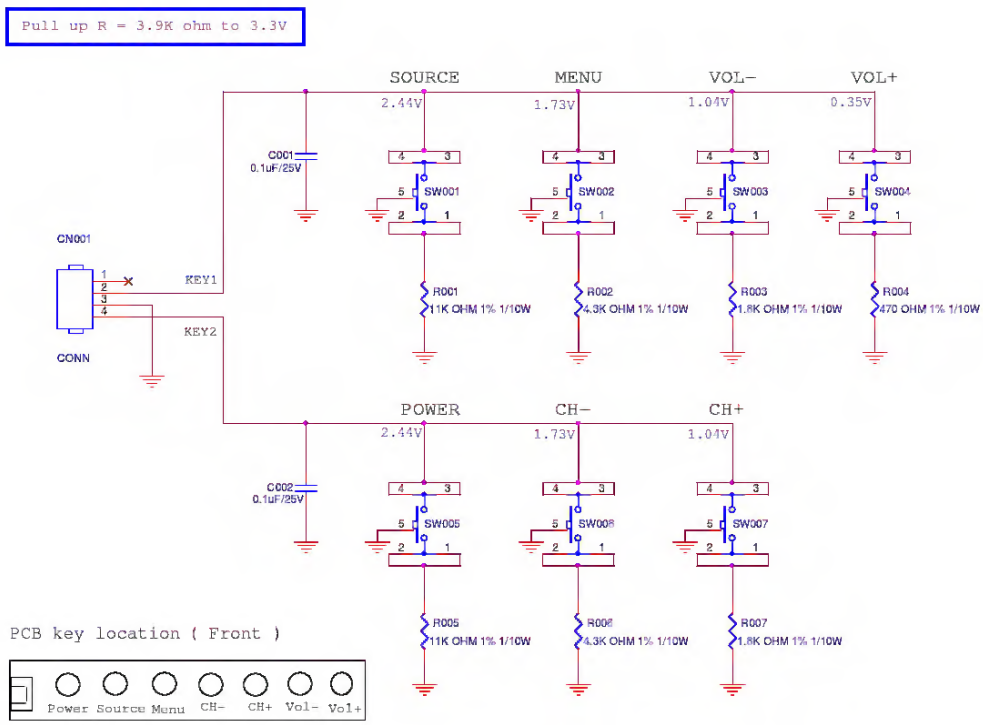


MODE	PT801	PT802	C819,C820,C821,C822	C814,C824	
22W ATV	NC	6DSL22I 33 GN	065G 3J3603EI	065G 3J2206EI	
22W DTV	6DSL22I 6 GN	NC	065G 3J3603EI	065G 3J2254EI	

TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	B
	T27S3-1-2-X-7-590303	TPV MODEL	PWTV9341MDAQ	Rev	D
Key Component	03.INVERTER	PCB NAME	715T2783-1-2		ODM MODEL
Date	Tuesday, March 04, 2008	Sheet	3 of 3		

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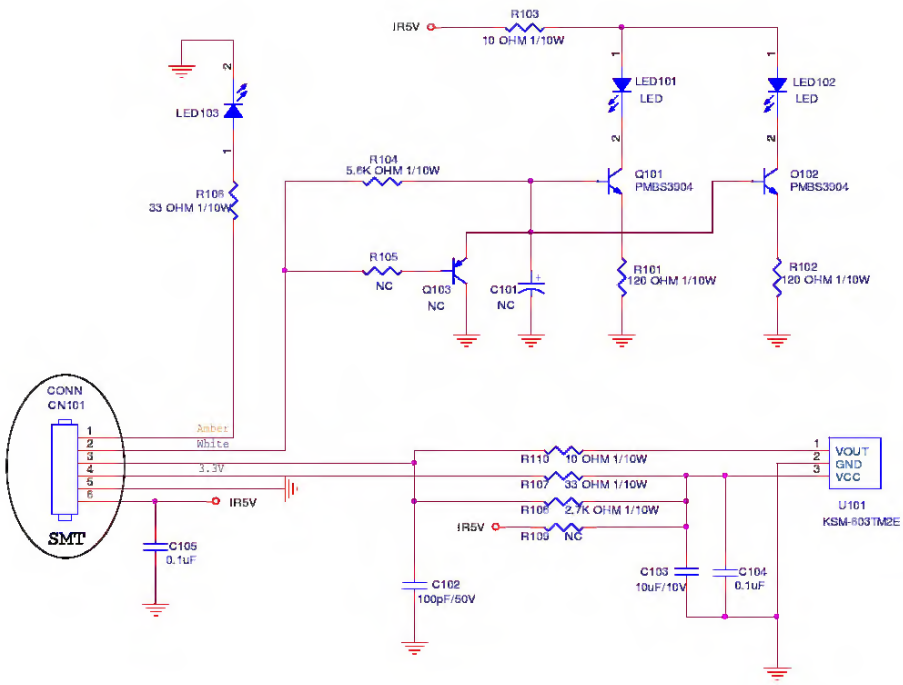
Key board



TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL	Acer	Size	A
	715T	TPV MODEL	TV2268W-AED	Rev	0
Key Component	MT5335 Key Pad	PCB NAME	715T2981-B		< >
Date	Thursday, November 29, 2007	Sheet	1 of 1		

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IR board



TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL	Acer TV	Size	A
	< >	TPV MODEL	TV2268W-AED	Rev	1.0
Key Component	MT5335 IR/LED	PCB NAME	715T2982-D		< >
Date	Friday, February 22, 2008	Sheet	1 of 1		

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